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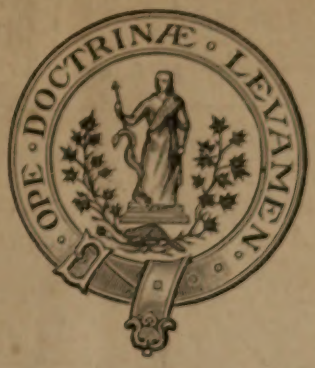

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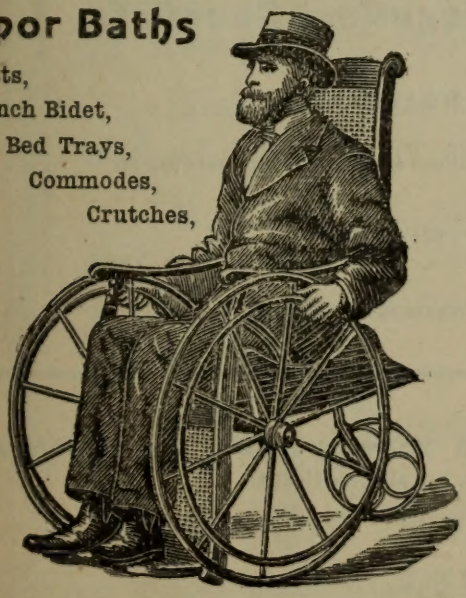

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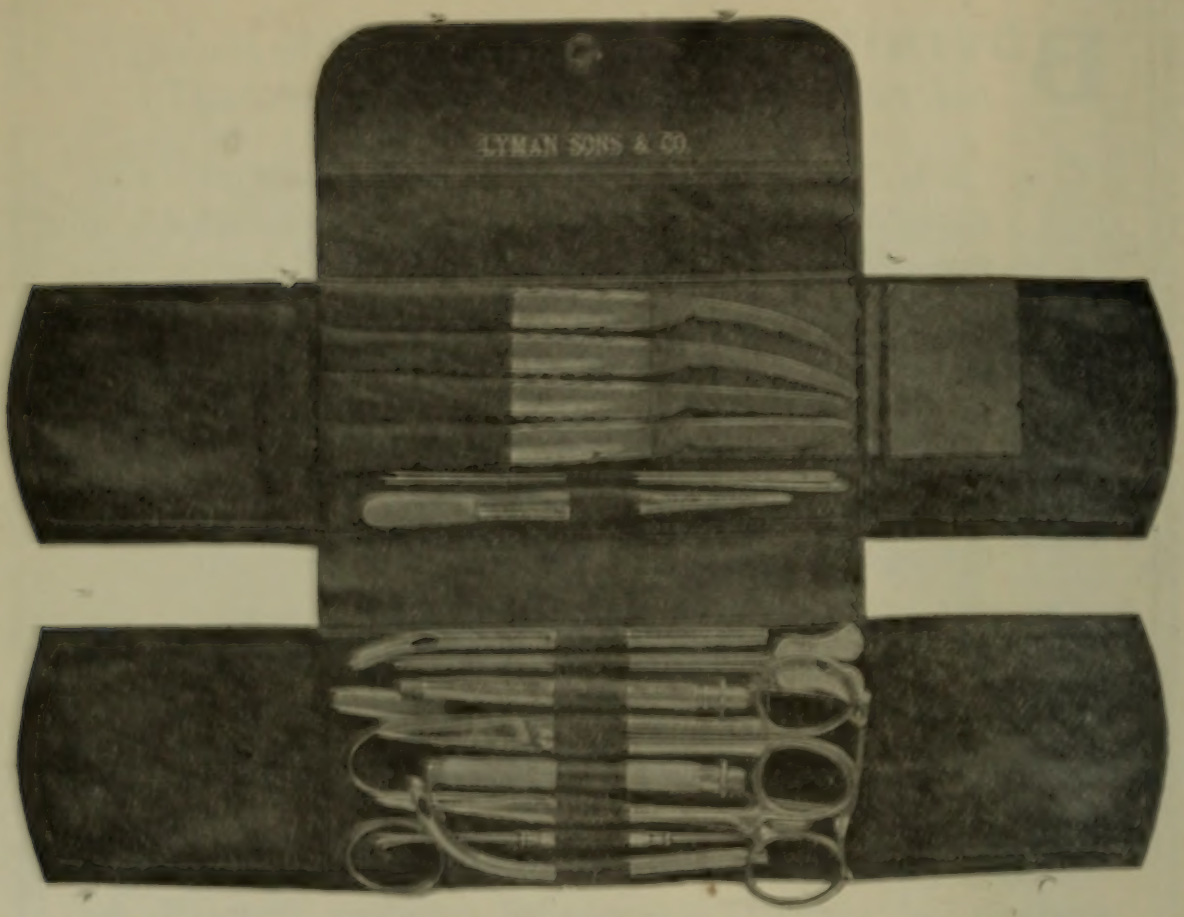

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ORGANISMS NORMALLY PRESENT IN THE CONJUNCTIVA.

BY

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The following report upon the organisms found in the healthy conjunctiva is based upon the examination of 140 cases, which was made in the Royal Victoria Hospital, Montreal, during the years 1902-03. It also includes an examination of all the literature upon the subject, to which I have had access.

The bacteriology of the conjunctiva, both in health and disease, is a subject of interest and importance to ophthalmologists. A knowledge of the organisms of the diseased conjunctiva is important because of its relation to diagnosis, treatment and prognosis. A knowledge of the bacteria of the normal conjunctiva is of value because of its relation to the methods of ophthalmic surgery.

The conjunctiva, with its moist surface continuously bathed with lachrymal fluid, closely associated with the nasal mucous membrane, constantly exposed to infections in various ways, offers every inducement to the lodgement of micro-organisms. It seems indeed, one of those parts of the body, which form a bacteriological home, ready and easily accessible. It has been established that numerous harmful, as well as harmless, bacteria are constantly present in the normal conjunctival sac. The researches of Sattler, Fick, Micheal, Weeks, Koch, Morax, Axenfeld, have clearly established that fact. Gallenga first studied the normal conjunctiva, and reported his findings to the Italian Ophthalmological Congress in Genoa in 1886. The next year came reports from Petresko, Leber, Gombert, Gifford and Sattler. Fick, who examined forty-nine healthy eyes, found the conjunctival sac sterile six times. In another series he found the sac sterile thirty-six out of fifty times. He isolated the Straphylococcus aureus, Micrococcus candicans, Streptococcus, and Sarcina lutea. Bach wrote of twenty-seven

different varieties of bacteria, which he had isolated from one hundred normal conjunctivæ. Thirteen of these had not been seen before. Gayet demonstrated the presence of the Staphylococcus aureus in the healthy conjunctival sac. Gombert isolated twelve species of bacteria from the normal conjunctival sac. Marthen described sixteen varieties of cocci, and two of bacilli, which he had observed in the healthy conjunctiva. He saw the staphylococcus aureus and albus, but not the Streptococcus. Franke found Staphylcocci ten times out of one hundred and fifteen observations. Morax had not found the Streptococcus in the normal sac. Foote in ninety-two eyes examined found the Staphylococcus albus tweny-two times, citreus five times, aureus once, Bacillus subtilis once, unknown bacilli eight times, negative results thirty-nine times. Lachowiez found in sixty-three eyes examined only four times the Staphylococcus albus and but once the Streptococcus. Still later valuable papers have been published by Eyre, Hildebrand, Bernheim, Marthen, McFarland and Kneass, and Griffith.

Eyre's work I have followed closely; so I shall describe his methods here. His work consisted (1) To determine the average conjunctival sacs which were sterile (2) To determine the presence or absence of the common pathogenic organisms. (3) To test their pathogenicity on the rabbit's cornea.

His method was to stroke gently the surface of the conjunctiva, especially the lower fornix, with a sterile platinum loop; and, with the fluid thus obtained, to inoculate a tube of nutrient bouillon. In another series he adopted the swab of cotton wool, and with it he inoculated a tube of serum, and then put the swab in a tube of bouillon. He says: "The exact position from which the conjunctival fluid is taken is of importance. When one everts the lid by gentle traction with the forefinger of one hand, a small quantity of fluid may be noticed in the lower fornix immediately below the caruncle. Into this he dipped his loop or swab, reasoning that the tears, after washing over the whole surface of the conjunctiva in the performance of their duty of flushing out the conjunctival sac, collected here with their cargo of bacteria and *débris*, before passing through the puncta on their way to the lachrymal sac. Therefore, fluid from this site would contain a larger proportion of organisms than that taken from any other part of the conjunctival sac."

Eyre examined one hundred and fifty conjunctivæ, and found seventy-five sterile. During 1902-03 at the Royal Victoria Hospital, I undertook the examination of a series of normal conjunctivæ. The method was as follows: Having gently drawn down the lower lid the

palpabral conjunctiva was gently stroked with a sterilized platinum loop, until a loop full of lachrymal secretion was obtained. Tubes of agar, bouillon and blood-serum were then inoculated, and placed in the incubator, and twenty-four hours later they were examined. The cases taken for examination were patients coming to other departments at the hospital, orderlies in the hospital, and medical students. All cases of hyperæmia of the conjunctiva were rigidly excluded. Of the one hundred and forty cases examined, forty gave negative results. The organisms isolated in the one hundred positive cases were as follows:—

Staphylococcus pyogenes albus	48 times
Staphylococcus epidermis albus.....	9 "
Staphylococcus pyogenes aureus	2 "
Streptococcus pyogenes	16 "
Bacillus xerosis	42 "
Bacillus of diphtheria group.....	1 time
Sarcina lutea	1 "

As will be seen from this table the Straphylococcus, Streptococcus and Bacillus xerosis were frequently found. Most of the negative results were, in the first fifty cases inoculated, and were from cases where the irritation of the lid did not give rise to the usual flow of tears. Where I obtained a good loopful of lachrymal fluid I invariably obtained growths. Throughout the experiment I used the platinum loop, believing it to be cleaner, and more accurate than the swab.

The percentage of postive tubes was large, and I attribute this to the media used. The bouillon and agar I made after Abbot's method, by using beef instead of beef extract. This agar I found an excellent medium both for the pyogenic organisms and for the Bacillus xerosis. The latter has been found by others to grow best on blood-serum media; the growth appearing after thirty-six or thirty-eight hours. Often the agar would show the Streptococcus as fine white points over the surface, with here and there a large colony of Staphylococcus.

The cause of the great variation in the results obtained by different observers must surely lie in the difference in technique and media.

Trousseau, after cleaning the conjunctival sacs with sublimate solution (1-2000), found bacteria still present. In twelve cases where cataract extraction was performed, and where he was able to examine the conjunctival secretions, he found pus in which five times he isolated Streptococcus, six times Staphylococcus albus, and once the Staphylococcus aureus. In spite of this in no case was there wound infection.

On the other hand conjunctivæ where no bacteria could be found

have given a more or less large percentage of infections (Morax, Trousseau, Franke, Bach).

Franke found the bacillus xerosis only once. Bach never found it, while Axenfeld found it constantly. Gasparrim claimed to have found the pneumococcus in eighty per cent. of the cases he had examined, while scores of others have never met the pneumococcus in the normal conjunctival sac.

All the results have been similar, however, in that large numbers of organisms have been isolated. The results show that in the normal conjunctival sac there are both harmful and harmless bacteria, that the different forms of staphylococcus, and streptococcus, are frequently present, that we must always consider the possibility of the pneumococcus, the Kock-weeks bacillus or the diplobacillus of Morax-Axenfeld being present.

These organisms may be unable to injure the normal membranes, but allow them access to an abraded cornea or line of incision, and they become the source of troublesome infection.

Axenfeld comes to the following conclusions:

I. The normal conjunctival sac is very often infected with pus-producing organisms, and the bacillus xerosis is constantly present.

That virulent micro-organisms are seldom found, but there is the possibility of their being present, especially the pneumococcus.

Eyre concludes:

I. The conjunctival sac frequently contains micro-organisms extremely varied in character, which may, or may not, be pathogenic.

II. The conjunctival sac of any individual may be sterile at the particular moment an observation is made.

III. The sterility of the conjunctival sac is due to the mechanical flushing of its mucous surface by the lachrymal secretion, aided perhaps by the bacteriacidal action of the fluid.

My experience has been that in the great majority of normal conjunctivæ, the ordinary pyogenic bacteria and the bacillus xerosis are present.

I take much pleasure in here recording my thanks to the Governors of the Royal Victoria Hospital, whose generosity enabled me to do this piece of work.

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MONOLOCULAR DENTIGEROUS CYST OF SUPERIOR MAXILLA.

BY

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Montreal.

(Patient shown and paper read before the Montreal Medico-Chirurgical Society, 24th November, 1905.)

The term Dentigerous Cyst is limited in its application to cysts which arise in connexion with developing teeth, or teeth, which though their development has been completed, are retained within the substance of the jaw. In the majority of cases they are connected with permanent teeth, and in some instances with supernumary teeth, and often in connexion with some one tooth as the third molar or canine.

While teeth which lie buried in the jaw do not by any means invariably give rise to irritation, in a certain number of cases these retained teeth cause a cyst to be developed around them with bony walls. On this account many mistakes have been made and portions of jaws unnecessarily removed.

These cysts, as a rule, are composed of a thick, soft membrane, and outside this a bony shell. The tooth generally has its crown projecting into the cavity while its root is buried in the cyst wall, though rarely the whole tooth lies free. The cyst is usually filled at first with a clear, glairy fluid though later this may become infected. As a rule the cyst gives rise to a distinct local enlargement of bone, and when situated in the upper jaw the antrum is very likely to become involved.

The etiology of the condition is variously explained: (1) We know that a fluid normally collects between the enamel and the tooth capsule;

this gradually increases in quantity, the contiguous bone is removed to make room for it, and the cyst finally bursts and is obliterated by the advancing tooth. When deeply situated in the jaw neither of the above may occur, and a tumour results. (2) The cyst may be formed, due to cystic degeneration caused by the irritation of the erupting tooth on the surrounding tissues.

The tumour, as a rule, grows slowly and is painless. The face of the tumour is rounded and hard, and may be smooth or lobulated. It usually occurs before the age of thirty years. The diagnosis is not difficult when there is absence from its proper place of one or more permanent teeth, or presence of temporary teeth on one side with permanent on the other. The treatment is to remove the retained tooth.

This patient, L. H., is a boy aged 13 years; his occupation, driver of a milk waggon. When first seen, on May 8th, 1905, he complained of a deformity of the face due to a swelling about the upper jaw on the left side. Although this deformity has been present for some time, as the growth had been very gradual and at no time painful, and as the boy lived in the country, no physician had been consulted.

The patient states that he first noticed a slight swelling of the upper jaw in the summer of 1904, and that this had been gradually increasing in size until the present deformity resulted. On three separate occasions, twice during last summer, and once in the spring of this year, he had noticed a sudden slight increase in the swelling, accompanied by a feeling of tension in the tumour. This in a few days was followed by the discharge of a small quantity of rust coloured fluid, with relief from the feeling of tension.

The patient is an exceptionally healthy boy of good muscular development. On the left side of the face, a marked deformity is visible. This is due to a filling up and protrusion forwards of the normal concavity in front of the malar and below the orbital bone. This is especially marked in the lower part, so much so that the lips cannot be completely approximated on this side without difficulty. Besides the actual deformity, the main peculiarity is due to the partial eversion and displacement of the upper lip on the left side. This is better brought out when the patient talks or smiles.

On external palpation the tumour is smooth, rounded, hard and insensitive, and about the size of a small orange. On examination of the mouth the swelling is seen to begin just above the margins of the bicuspids on the left side. On internal palpation it is found to be smooth, rounded and more or less resilient, giving the sensation of a thin layer of bone over a fluid cavity. It is quite insensitive except on deep palpation.

On examination of the teeth the canine on the left side is found missing, while that on the right is projecting through the alveolus slightly posterior to the line of the other teeth. This is very well shown in the beautiful cast which was made for me by Dr. J. B. Morison.

A probable diagnosis of Dentigerous Cyst having been made, I thought it advisable to have *x*-ray photographs taken in order to locate the missing tooth. These were taken by Mr. Watson of the Montreal General Hospital. The first consists of a lateral view of the skull. Due to insufficient exposure, however, even the teeth normally placed show but poorly, and in view of the deep burial of the displaced tooth, it is not to be wondered at that it does not show in the plate. At Mr. Watson's suggestion I next had a film exposed over the teeth and base of the tumour. Again we failed to find the missing tooth, as it was situated about one inch above the line of the other teeth. The film, however, shows a space between the incisor and the bicuspid where the missing tooth would normally appear.

On June 30th, 1905, being convinced that my diagnosis of Dentigerous Cyst must be correct, I operated on the patient in the Western General Hospital. An incision was made over the base of the tumour just above the roots of the bisucpids, the knife passing through a tissue having the feel of cartilage. Quite a gush of a clear, viscid fluid occurred.

The finger was introduced and found to enter a cavity where, about an inch and a half above the line of the teeth and half an inch to an inch internally, a tooth could be felt projecting into the cyst. This was easily pried out with a chisel and removed. The cavity was then lightly curetted and packed with gauze.

The patient was operated on at 2 p.m.; he left for the country about 6 p.m., and served his milk round as usual at 4 a.m. the next day.

The tooth appears to be a perfectly normal canine tooth, the crown of which was projecting into the cyst.

The subsequent treatment was the dressing of the cavity at required intervals. The cavity took much longer to close than I had anticipated and the patient was only discharged as cured about October 15th.

The patient is of interest only in proving the fact that the deformity due to such cysts is most readily and permanently removed. All that remains now is a slight thickening of the superior maxilla and a short healed sinus a quarter of an inch in depth at the site of the original incision.

THE BEST TREATMENT FOR PATIENTS IN THE TUBERCULAR, PRE-TUBERCULAR AND IN THE EARLY STAGE OF TUBERCULOSIS.

BY

J. W. FLINN, M.D. [McGill]

Prescott, Arizona

After long and mature deliberation I decided not to write a learned and scientific dissertation on tuberculosis for this meeting, for two reasons. The first is, I could not do it if I would; the second, you probably would not understand it if I could. Such being the case, I shall endeavour to offer you something suited to our limited capacities; to temper the wind to the shorn lamb; to feed you as babes and sucklings should be fed. Moreover, having cut ourselves loose from the trammels of the very learned, we shall not feel bound to observe that accuracy of thought and nicety of expression that should be characteristic of the scientific mind, but shall, the rather, consider ourselves at liberty to indulge in even extravagant forms of expression, when they seem best fitted to impress truths that appear to us important.

In these latter days the profession seems prone to forget that Medicine is an art as well as a science; that it is concerned not alone with the attainment of a knowledge of disease, but also with the practical application of that knowledge in the consultng room and at the bedside. We hear a very great deal nowadays of "laboratory methods" and "original research." Men delight to speak of microtomes, staining methods, cultivation tubes, germ colonies and microscopical appearances. They forget that the business of the rank and file of the profession is not to be learned, but to be practical.

Far be it from me to cast a slight on the real men of science in the profession; the men who, by years of painstaking research, have done so much to rescue us from empiricism, and, at least, point out to us the direction in which rational treatment lies. And yet although we have, by the aid of these men, progressed so rapidly in our knowledge of the Bacteriology, Pathology and diagnosis of disease, is it not a fact that treatment, the *raison d'être* of the whole science, has been sadly neglected? Are the methods of treatment actually in vogue to-day so much ahead of those of half a century ago? One sometimes wonders if, after all, we have improved so very much on the treatment of a

practitioner of the 16th century, who said, "First I physicks them, then I sweats them, then if they wants to die I lets them."

A few weeks ago one of our guests said to me, "What you medical men in Arizona need is a good laboratory." Gentlemen, a laboratory is the very least of all our needs. What we do need is a few men with a limited knowledge of medicine and a large fund of "common sense." In other words, what we need is, not so much, to know more of medicine as to make better use of what little we do know.

You will notice that in the title of this paper I have used the expression, "the best treatment." As the treatment is the best, one would naturally conclude that it is limited in its application to the few who can afford to take it. Such, unfortunately, is the case. And yet, if you will stop and consider for a moment, you will perhaps come to the conclusion which I reached a few years ago, that it is this few who are greatly in need of treatment.

During the past twenty years there have arisen in different parts of this country, large and well equipped hospitals and sanataria for the treatment of tuberculosis. Following in the footsteps of Trudeau, the American pioneer, in this class of work, quite a few medical men have succeeded in having sanataria established, where tubercular patients of limited means may, for a nominal sum, get the most approved form of treatment, under the constant care of a physician. More recently the attention of our governments is being directed to this work, and in not a few states and provinces these institutions are being maintained in whole or in part by state aid. In short, the indigent tuberculars and those of limited means bid fair to be moderately well provided for in the next decade.

On the other hand, the very wealthy are quite able to take care of themselves. A person of this class can, on the first appearance of this disease, take his physician, his family and servants, go where he finds the best climate, lease, buy or build a suitable residence, and live amid the most favourable surroundings, under the constant care of his own physician.

But what of the unfortunate individual who is neither pauper nor millionaire? What provisions are being made for his comfort and care? Take, for example, the case of a prosperous business or professional man, in whom this disease has been discovered in its incipiency. He is advised that he must give up work for a year or more, place himself in the most suitable environment, and receive the very best of care. He prepares to leave home, possibly accompanied by his wife and child, and

calculates that he can spend only, say, from one hundred dollars ($100.00) to five hundred dollars ($500.00) per month during his absence. Where shall he go? In what part of all this country can he find the accommodations he needs?

He does not care to go to a sanatarium for tuberculars, more especially one maintained in whole or in part by charity. Very probably he would not be received if he did. His physician advises him to go West. Their ideas of the West are about as definite as are ours of the moon. After consulting numerous railway guides, they at last decide on some particular town, and thither the poor unfortunate flees. He arrives in the country tired and depressed, and after having run the gauntlet of the various boosters, which the up-to-date physician considers a necessary part of his armamentarium he is forced to the conclusion that he is an outcast on the face of the earth, that this small world has no place for him. He investigates the boarding houses. He finds the rooms small and stuffy, the food poor, badly cooked and mussy. He thinks of keeping house, but finds houses scarce, rents high and help impossible to get. In the end we will likely find him a hotel in one of the so-called health resorts, in a room which admits little fresh air and less sunshine, and surrounded by people of every class, all suffering from the same disease in all its stages. In the dining room he finds a meal of six or seven courses, not one of which he is able to relish. Left to his own care, in surroundings such as these, is it any wonder he does not improve?

This man will serve as a type of the class to which I refer, and the treatment of which I wish to discuss to-day. We shall endeavour to place him in pleasant, comfortable quarters, adapted to the needs, in a suitable climate and outline for him what seems to us the best form of treatment, and in so doing we shall practically be giving a history of the locating, building, equipping and running of our little resort, Pamsetgaaf, on the outskirts of this town.

Our first duty is to find a suitable climate. In trying to do so we cannot do better than start with Osler, who, in his classic work on medicine, says that the requirements of a suitable climate for tuberculars are pure air, maximum sunshine, equable temperature, good accommodations and food; the first letters of which words form the name which we have chosen for our resort, "Pamsetgaaf." That this is, in the main, correct is admitted by all. That pure air, maximum sunshine and good accommodations and food are essential requirements is denied by none. On the other hand, whether an equable temperature is essential or even

beneficial to early cases is, I think, very doubtful. No less an authority than Prof. Burney Yeo is quoted as having said,[1] "that the most important climatic element for the cure of consumption is a daily variation in temperature of more than twenty degrees, which acts on the organism in a way to produce conservative reaction against further bacterial invasion."

Without pretending to understand just exactly what Prof. Yeo means, we can at least see that it is very hard to find a combination of absolutely pure air with an equable temperature anywhere except on the sea. As it has been abundantly proven that we do get the very best results on the deserts and in the mountains, where the daily variation of temperature is very considerable, we are, I think, justified in concluding that an equable temperature is not an essential requirement for our suitable climate.

In fact, while we are of the opinion that tuberculars in the later stages should all be sent to an equable climate, we think with Yeo, that a considerable daily variation in temperature is of marked benefit to those in the early stages.

But there is another requirement of our suitable climate for early cases, the consideration of which I have purposely left to the last, because I think it is the most important, and wish to deal with it at greater length. I refer to altitude, It seems to me that, theoretically, the most potent argument in favour of the high altitude treatment of tuberculosis is the undisputed fact that altitude is the one geographical condition which is naturally antagonistic to the disease. Even Osler, who is not an advocate of the high altitude treatment, says, under the head of "Geographical Distribution":—"The disease exists in all countries. .....Italy and England suffer alike, and the disease is very prevalent in the West Indies and the South Sea Islands." (In all of which, by the way, there is an equable temperature.) "..... Altitude is a more potent factor than latitude. In the high regions of the Alps and Andes, and in the central plateau of Mexico, the disease is very rare. Mountainous countries such as Switzerland have a very low death rate from tuberculosis." We may add that what is true of the high plateaus of Mexico, is doubly true of the mountainous regions of Arizona. The older practitioners here tell us that thirty years ago, the disease was practically unknown in Prescott. That this immunity is due to altitude and not to better general environment is shown by the fact

[1] Journal American Medical Association, Jan. 28, 1895, page 299.

that [1] "in South America and other places the natives are crowded together, favouring contagion, and have food not adapted to proper nutrition; still, the rate from tuberculosis is very small, as compared to the rate of deaths from this disease among the same people living at a lower altitude, although other conditions, except the factor of elevation, are the same."

That altitude is an important factor in the treatment of tuberculosis is no new idea. So long ago as 250 A.D., Celsus wrote:—"Soon as a man finds himself hacking and spitting on rising in the morning, he should immediately take possession of a cow, and go high up into the mountain and live on the fruit of that cow."

In more recent times, Dr. Herman Weber was probably the first to advocate the high altitude treatment of tuberculosis. His experience was largely of Davos Platz, in the Swiss Alps, where the altitude is just the same as ours here in Prescott. His conclusions agreed with those of his American followers, among whom may be mentioned Drs. S. E. Solly and Charles F. Gardiner, of Colorado Springs.

Dr. Solly, who has had a very large experience with this treatment, gives us some very interesting statistics, in his article on climate, in Hare's "System of Therapeutics." He has collected reports of several thousand cases, treated by men like Weber, Williams, Trudeau and himself at high and low altitudes. In averaging the results obtained by these men, he found that, in the first stage 20 per cent. were cured and 44 per cent. benefitted in low climates; while, in the same stage, 62 per cent. were cured and 84½ per cent benefited in high altitudes. He says:—"The moral taught is that a consumptive treated, in an open resort in an elevated climate, has three times as good a chance of recovery as has one treated in an open resort in a low climate, and twice as good a chance as one treated in a sanatarium in a low climate. In prescribing a particular resort for a case of consumption, the application of this moral, however, is dependent on many minor points, that cannot be here described, but the broad truth remains that of all climatic factors in the treatment as well as in the prevention of phthisis, elevation is by far the most powerful of them all."

The question now arises, in what way do high altitudes affect tuberculosis? I cannot do better than quote from a paper by Dr. Gardiner,[2] in which he records the results of some painstaking and rather extensive investigations carried out by himself, as to the bacteriological condition

[1] Gardiner, the American Journal of the Medical Sciences, Feby., 1898.
[2] Ibid.

of the air at high altitudes. He found the air outside of the towns and the ranches absolutely sterile and germless above four to six thousand feet. He says:—"The point of interest now comes up as to what factor in a dry, elevated climate confers to such a degree, immunity from tubercular infection. . . . This climatic influence, that also favours recovery from consumption, is no doubt composed of many factors. Very briefly, they can be stated as follows:—The tubercular germ, distributed as dust, is much more likely to lose its virulence, exposed in a climate where the sunshine is so constantly present and the air is so thin. The air-cells of the average lungs are more used, more brought into healthy action, at an altitude of six thousand feet. The increase, as told by the spirometer and by chest measurements, is very marked in new-comers to the dry, elevated climate; and it follows that organs so exercised, both by increased ventilation and by increased blood supply, do not so readily become a suitable medium for the growth of tubercular bacilli. The blood itself is markedly changed at six thousand feet altitude. It has been shown by Egger and Paul Bert in the Andes; Muntz, Vicault, Koeppe and Woolif in Europe, that the blood in individuals living at six thousand feet and upward above the sea is increased in specific gravity, with also an increased number of red corpuscles and an increase of hæmoglobin, giving the blood greater power to absorb oxygen; and, with all this, also an increased muscular power of the heart, thus insuring to the blood in several ways an increased germicidal power, and what is probably more important a stimulation of tissue change—all of these conditions of the blood being antagonistic to tubercular infection.

The tonic of altitude and cold nights is, too, a stimulant of decided value to the nervous system, much as strychnine acts, by increasing the appetite, etc. There is also the dryness to be considered, the absence of moisture in the air itself, being well known at any considerable altitude, the dryness of the soil probably being the more important of the two. Bowditch, Buchanan, Pepper, Trudeau, Elliot—all have shown that the relation between damp soil and phthisis is a constant one; and, no doubt, some subtle influence exists by which our dry regions, such as Colorado, etc., with sandy and gravelly soil, exert an effect on the extension of tuberculosis.

A word as to those who advocate a moderate elevation in the treatment of this disease. They are men who have lived, or are living, at sea-level, and have noticed the advantages of a moderate elevation over the lower altitude; but have had no experience whatever in the

high altitude treatment. I have yet to know of a man, of any considerable experience in high altitude treatment, who does not consider it superior to that in lower climates in early cases.

Personally, after ten years of fairly active practice, three and a half years of which were spent on the sea-coast, three on the Arizona desert at a moderate elevation, and three and a half here in Prescott at an elevation of 5,300 feet, I am fully convinced that the majority of pretuberculars and those in the early stage do much better at a high altitude; while practically all of those in the later stages do much better in the lower climates.

These, then, we consider the requirements of our suitable climate, altitude, pure air, maximum sunshine with good accommodations and food.

Mr. W. Vaughan,[1] of Montreal, who recently spent eighteen months in the West, dividing his time about equally among Castle Creek, Hot Springs, Pamsetgaaf and Colorado Springs, has the following to say of Prescott and its climate:—"Prescott, altitude 5,320 feet, with a population of about 5,000, is a prettily situated mountain town, 150 miles north of Phoenix. It is well built, and possesses up-to-date conveniences, including an infant street car service and a Sisters' Hospital. . . . Prescott has an advantage, climatically, over the other cities I have mentioned (Phoenix and Tucson) in being an all-the-year-round resort. The temperature in the hottest months, July and August, is thoroughly enjoyable, while the winter days are bright and sunny. The air is, at all times, more bracing and tonic than at lower altitudes in the Territory. The maximum summer temperature is about 95° to 98°, and the mean, for the months of July and August, 73° and 70° respectively. The summer nights are deliciously cool, and a blanket is always needed. The mean temperature for the coldest months, January and February, is 34° and 38° respectively. The nights during this season are quite cold, with a mean minimum of about 18°, but the daily maximum temperature varies between 50° and 60°. Both the cold and the heat are tempered by a very low relative humidity, and the patient is untroubled by sand-storms. During 1903, the precipitation amounted to 16.74 inches of rain, falling chiefly in short, sharp thunderstorms in the summer season. There was also a total fall of 18 inches of snow (unmelted), which, under the influence of the bright sunshine, very quickly disappears. The climate of Prescott challenges comparison with that of Denver and that of Colorado

[1] Montreal Medical Journal, February, 1905.

Springs. Thirty feet higher than Denver and 750 feet lower than Colorado Springs, it has an annual mean temperature of 53°, or some 3° higher than both. The summer temperatures are very nearly alike, but Prescott enjoys a less severe winter; its average wind velocity is considerably lower, and its relative humidity is less than half of that of either of the other two places. Its percentage of possible sunshine is also higher. In 1903 Denver had a total of 199 clear days, 105 partly cloudy and 61 cloudy; whereas Prescott had 248 clear days, 96 partly cloudy and 21 cloudy."

Situated as we are, in the very heart of the arid region, all our air must needs travel over hundreds of miles of sun-dried desert before it can reach us, from whatever direction it may come; and hence we combine here all the advantages of life on the desert with those of a high altitude. It will at once appear that we have here such a climate as we have been looking for, altitude combined with a singularly dry, pure and tonic air, and almost constant sunshine, "with a daily variation in temperature just sufficient" to produce a conservative reaction against further bacterial invasion.

Having found a suitable climate for our patient, we shall endeavour to give him (1) an absolutely out-of-doors life, with the comforts of home and no "roughing it"; (2) good food, well cooked and nicely served; (3) rest or carefully regulated exercise; (4) systematic bathing; (5) the constant care of a physician, with the least medication possible.

(1) Out-of-doors life. Herein lies the great advantage of life in the so-called arid region of the West. Whereas patients find it difficult to spend seven or eight hours daily out of doors in the East, in Arizona many[1] "can and do spend as many as twenty-two hours or even more, out of every twenty-four, in the open air with comfort and pleasure all the year round."

In the matter of quarters one has the choice of a tent-house with veranda, or a specially constructed cottage with veranda. In each case the veranda is the important part of the structure, and the house part being only a necessary evil, is made as small and unimportant as is consistent with the ordinary comforts enjoyed by the wealthier classes. As all the verandas are specially fitted in one corner for a bed, the house part is ordinarily used only as a dressing room, the occupant spending the remainder of his time, whether sleeping or awake, on the

[1] Ibid.

veranda or elsewhere, out of doors, day and night, summer and winter, every day in the year.

The tent-houses are all one roomed, the size of the rooms varying from 12 to 14 feet, to 16 by 18 feet. They are of heavy canvas, raised some considerable distance off the ground, and have railed verandas in front, the whole being covered by a large canvas fly, raised about a foot above the tent. The floors are of matched flooring, of good quality and well oiled. The walls are seven feet high, four feet being boarded and battened; the remaining three feet of the walls and the roof are covered only by canvas, thus admitting a maximum amount of light and allowing the action of the sun's rays to be felt in absolutely every part of the room. The front entrances are of double size, and have double screen doors with wire netting above and on each side of the doors, so that, by throwing back the canvas, the whole front of the tent is opened and covered only by the netting. In this way, by simply opening both screen doors, it is quite easy to roll the bed into the tent at any time the rain should beat in on the veranda, and still enable one to sleep in what is practically out of doors. All the tent-houses have either a window or a door in the back, thus allowing a free current of fresh air at all times. They are all fitted with stoves, lighted by electricity and nicely furnished.

For the use of guests who occupy tent-houses there is a bath-house containing two bath rooms, with specially large porcelain tubs, with hot and cold water, and two toilets nicely fitted up with the most modern plumbing.

Back of the tent-houses are a number of artificial bowers, a high frame-work open on all sides and covered with fresh pine boughs. These are always cool, and are ideal spots for an afternoon siesta.

As regards cottages, after some considerable experimenting, we have come to the conclusion that Trudeau's idea of a cottage that will accommodate four guests is the most practical one. Such a cottage should have two verandas, 12 feet wide, and running the full length of each side; four rooms about 12 by 12 feet; four large clothes closets; and two bath rooms with toilet and wash bowl. Each room should have a fireplace, and be fitted up as a dressing room, which could on very rare occasions be used as a sitting room. The verandas are for sitting-room and bed-room combined, and should be nicely arranged with beds, tables, chairs, rugs, house plants, etc. Out-of-doors life in a pine belt, and amid surroundings such as these, should be, and is, a pleasure to even the most fastidious.

(2) Good food well cooked and nicely served. This is the part of our treatment that it is so very difficult to get in the arid region of the West. This can, I think, be gotten in only one way, by having your resort under the direct management of a medical man who is willing to give the kitchen and dining room his personal supervision, even to the extent of giving each individual order a personal inspection before it leaves the kitchen. This, as you can well imagine, is very difficult to do; and yet we have proved abundantly that it is possible to do it, and that it is only in this way that satisfaction can be given.

The food should be good; prime roasts of beef, sirloin and tenderloin steaks cut thick, choice legs of lamb, French chops, spring chicken, good home-made bread, fresh fruits, fresh vegetables, cereals, an abundance of fresh milk and new-laid eggs, with enough soups, fish, salads and desserts to make the meal appetizing.

The food should be well cooked; the roast beef cooked in a double pan or roaster, or well basted during cooking; the steaks broiled; the potatoes baked; the bread well kneaded and carefully cooked.

The food should be nicely served; the table made attractive with a variety of good silverware and glassware, and well laundered linen. The orders should be dainty and served fresh and hot, and the table maid should be attentive.

We think three hearty meals a day is the basis of good feeding, and have found that quite a large percentage of these early cases do better without any food between meals. For those who cannot eat heartily at mealtime, and for the few who can and still take nourishment between meals, we provide new laid eggs, fresh cow's milk or expressed beef juice to be taken at 10 a.m., 3 p.m., and at bed time.

(3) Rest or carefully regulated exercise. Of these two forms of treatment, rest is by far the more important, especially in high altitudes. Most people make the mistake of beginning to exercise at once on coming up here, forgetting that there is probably as much work thrown on the heart and lungs while sitting still at this altitude as there is in taking quite active exercise at sea level. We think that all patients should avoid all exercise for the first few weeks, and quite a few for some months. For those who have a continued afternoon temperature, however slight, and for those with an afternoon temperature above 100°, if only for a few days, we advise absolute rest in bed. Absolute rest in bed has in suitable cases proved the very best therapeutic agent we have been able to find; the one that gives the quickest and most satisfactory results.

As regards exercise, it should not be begun until after there have been marked signs of improvement in any case, and then should be commenced very moderately and increased very gradually, the results being carefully noted each day by the physician in charge.

(4) Systematic bathing. We consider this a very important therapeutic measure, and one that is to a large extent neglected in this country. For the majority of cases the cold sponge has seemed the most beneficial. We follow the method recommended a few years ago by Dr. A. D. Blackader, of Montreal. An ordinary wash tub, filled about one-third full of pretty hot water, is placed every morning by each guest's wash bowl. He stands in this tub and sponges his whole body very freely for a few minutes with cold water from the wash bowl, the colder the better. He then rubs himself briskly with a Turkish towel. The warm water serves to prevent chilling, and adds greatly to the comfort of the bath; and we have found quite a large number who can take a cold sponge bath in this way, who had not been able to do so before. There are a few people who simply cannot take the cold sponge, and for these we advise the daily tepid sponge taken in the same way.

(5) The constant care of a physician with the least medication possible. Some one will say, "When there is to be little or no medication, what is the use of having a physician?" I reply, principally to keep the patients from taking medicine. Let the physician teach his patients that their stomachs were not meant for apothecary shops. Let him educate them up to the idea that the days of cod liver oil and creosote, of opiates and cough syrups are past indeed, not alone in theory but also in practice. We are practically all agreed that no drug has any beneficial effect in tuberculosis, and yet how many of us have the courage of our convictions? Are we not still drugging? We might with profit follow the advice of Hare in typhoid fever, and hang on the bed of every tubercular patient the following notice:—"Let the patient get well." Does your patient cough? Let him live out of doors. Has he fever? Let him rest in bed. Is he anæmic? Let him sit in the sun.

A recent number of the Los Angeles Medical Journal had the following:—"Treatment by light is becoming more and more popular. Red light for small-pox, blue light for erysipelas, and ultra violet rays for all the ills the flesh is heir to. But the clear bright light of God's own sun is the most powerful curative agent of them all."

Let the physician attend to the details of the treatment that I have indicated, and look after the upper air passages, and nature will do the rest.

We think that the treatment of patients of this class can be carried out better in an open resort such as ours than in a sanatarium. Here we have more liberty and less irksome restraint; more suasion and less compulsion. Certain general rules of life are laid down to which all must conform, notably that one in regard to the disposal of all sputum. On the other hand, each guest is at liberty to consult a physician professionally or not as he thinks best. As a matter of fact, they all soon learn that it is better to consult one, and are much better satisfied with his advice than if they were compelled to consult him.

In conclusion, these are no chimerical ideas, but they have been successfully put into practical use by us during the past two years, and we hope, by continuing as we have begun, to cheat the "great white plague" of at least a few of its intended victims.

SOME CLINICAL CONSIDERATIONS IN RESPECT OF INFLAMMATION OF THE UTERINE APPENDAGES.

BY

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Mr. President and Members of the Society:

With your permission I shall dispense with the conventional introductory apology, beyond making the statement that this paper contains nothing new. It is merely an attempt to gather together, and to collate into a single thesis the different, the diverse, the almost protean-like life histories which are presented to us clinically, by inflammatory disease of the uterine appendages. This paper has been written entirely in the spirit of our own local Renaissance—the Clinical Renaissance—if I may so term it, which even now is present in our midst; and, in consequence, it is chiefly concerned with details of diagnosis and of treatment.

By the uterine appendages or adnexa we mean, of course, the ovary and Fallopian tube, each on its own side of the uterus, and in inflammatory lesions of these organs it is the common rule to find not only that the two organs of one side suffer jointly, but also that the organs of the

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opposite side share in the involvement. In other words, the lesion of Salpingo-Ovaritis is very generally bi-lateral. Occasionally it is true, the inflammatory mischief may be confined to one side of the pelvis, and in exceptional cases even to the single organ, tube or ovary, of that side. But in the great majority of cases, inflammatory disease once determined in the pelvis is soon more or less widely disseminated therein, and that while the uterine appendages of one side may at first alone be implicated, sooner or later, depending upon the kind of infection, the appendages of the opposite side become involved.

And this clinical finding depends upon two groups of facts; (*a*) the anatomical group, and (*b*) the pathogenetic group.

In (*a*) the anatomical group we remember that, below, the Mullerian canal, namely the vagina and uturus, is single and centrally placed in the pelvis, while above its two component parts persist as separate tubes —the Fallopian tubes, which in their turn communicate directly, each on its own side, with the great lymph space, the peritoneal cavity. In this dichotomously-branched genital canal there obtains thus a direct continuation of serous and mucous surfaces from one side to the other of the pelvis and maintained therein from one side to the other is a continuous lymph current. The lower half of this genital canal, namely the vagina and uterus, the part most frequently infected, is placed axially in the pelvis and embracing it on its two sides is the richest vascular and lymphatic supply, outside the portal system. These blood-vessels and lymphatics freely anastomose even across the middle line, the veins are plexus-like in arrangement and possess no valves and directly in the path of the two main lateral lymphatic streams the ovary and outer half of the Fallopian tube are placed. So for two anatomical reasons, — the direct continuation of their surfaces both serous and mucous, and their extremely rich and anastomotic vascular and lymphatic distribution, the female pelvic viscera are rendered specially vulnerable throughout their whole extent, to the invasion and spread of organismal infection.

Considering now (*b*) the pathogenetic group of factors we recall that infections here occur chiefly in three or, at the most, four ways.

(1) The ascending infection where the organisms enter the vagina and uterus from below and therefrom spread either by direct contiguity to the uppermost limit of the genital tract on either side, or are carried thither from the centrally-placed utero-vaginal cylinder by the numerous efferent channels, vascular or lymphatic. Witness the spread in this manner of a septic or gonorrhœal infection and how almost inevitable must be their bi-lateral invasion of the tissues.

In (2) the descending infection the conditions are in some way reversed for the infection here takes place from the general peritoneal cavity. The organisms gravitate toward the bottom of this cavity—the pouch of Douglas—and thence are swept by the lymph stream into one or both of the Fallopian tubes. The best example of this descending infection is seen in tuberculous salpingo-ovaritis where the tubercle bacilli from some primary focus gain entrance to the peritoneal cavity, sink to its lower pole and thence enter and infect the Fallopian tubes. Here also, the lesion tends to be, or to become, bi-lateral.

(3) Infections from the blood-stream, pyæmic in character, very frequently, by reason of the valveless veins and the free venous anastomosis, manifest here multiple and bi-lateral foci.

(4) Even in the direct infections from the neighbouring pelvic viscera, the bowel or bladder, the mischief remains localized and unilateral, only if it is not progressive.

Speaking generally then inflammatory mischief affecting either primarily or secondarily the internal genitalia tends always to involve these organs throughout their whole extent and to implicate almost invariably the pelvic peritoneum and cellular tissue.

The ætiology of these lesions, as we have already intimated, is organismal. Pelvic congestion, strain and wet feet are at the very most but predisposing factors, for the actual causes here as elsewhere, are the various pathogenic organisms.

These organisms are the following and named in the order of their importance:

(1) The Gonococcus of Neisser as causative of Gonorrhœa, either obvious or latent.

(2) The Streptococcus and Staphylococcus pyogenes and Bacillus coli communis as evidenced in all septic cases, puerperal or traumatic, with their marked predisposition to acute systemic infection.

(3) The Bacillus of Koch as productive of genital tuberculosis.

(4) And very rarely the Ray Fungus of the Actinomycosis Bovis.

These are the organisms and frequently do we get of these mixed infections. Their bacteriology has only recently been thoroughly investigated and notably by Bumm, Wertheim and Foulerton. In the light of this work our clinical experience in these cases is explained and confirmed, for we are told that while the gonococcus thrives best upon mucous and serous surfaces it may penetrate deeply into underlying cellular tissue and remain therein for long periods, months or even years, quiescent but potentially virulent; and that while pyogenic bacteria prefer the lymph spaces of cellular tissue, they nevertheless may

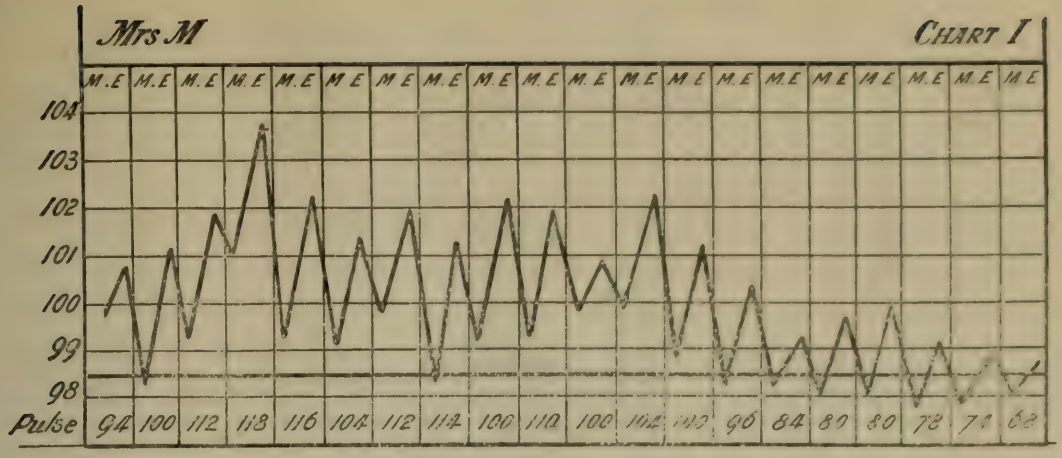
flourish with extreme virulence upon any mucosal surface. To the former category and with similar predilections belongs the tubercle bacillus while the Ray Fungus is to be included in the latter. In concrete terms of the inner genitalia, gonorrhœa and tuberculosis affect primarily the mucosa and submucosa of the uterus, Fallopian tube and ovary, while the pyogenic organisms seek always the cellular tissue of the pelvis, the parametrium. And such is invariably the clinical experience.

Of the organisms by far the most frequently found and the most baneful in results is the gonococcus. Even in our own younger country 75 to 80 per cent. of the cases of salpingo-ovaritis in hospital practice are due to this organism. It is of this organism, of gonorrhœal inflammation of the Fallopian tubes and ovaries,—some few points in its diagnosis, prognosis and treatment, that I wish to speak.

Clinically, as we meet them in hospital or private practice, these cases of gonorrhœal salpingo-ovaritis fall into two groups according as the process, for the time, be virulent and acute, or latent and chronic. These phases are recurrently met with in one and the same individual, for while the disease is essentially a chronic process, slowly progressive for months or even years till the organisms are by their own toxines exterminated, yet ever and again this course is marked by the occurrence of exacerbations when for days or weeks the clinical picture is one of an acute infection. These exacerbations are due to the sudden invasion of healthy tissue or surfaces by the organisms and their products, are frequently traumatic in origin and almost invariably take the form of a pelvic peritonitis, greater or less in extent. The old simile of likening this infection to the slow spread of a fire through dampened brushwood, is extremely apposite and I may be pardoned for repeating it. How the fire smoulders and smoulders with but faint signs (or symptoms) till suddenly here or there, reaching more favourable conditions, it is driven into flame, but only more or less quickly to burn itself out and be lost again in the general smouldering. And so its progress continues, now hidden, now alight, till finally its whole course is checked, and gradually it smoulders and smoulders out.

First then the clinical picture of Group 1, Cases of Acute Gonorrhœal Salpingo-ovaritis; and taking a typical instance.

The patient is extremely ill and abdominal symptoms predominate. There is fever 101°-103° F., usually remittent, increased pulse rate, 100-120, abdominal pain, rigidity and tenderness, most marked over the lower quadrants. The decubitus is supine with knees drawn up, the expression is anxious, the tongue furred; there is some abdominal distension, complete anorexia and not infrequently nausea and vomiting.


Mrs M
Chart I
M.E
104
103
102
101
100
99
98
Pulse
94 100 112 118 116 104 112 114 100 110 100 102 103 96 84 80 80 78 72 68

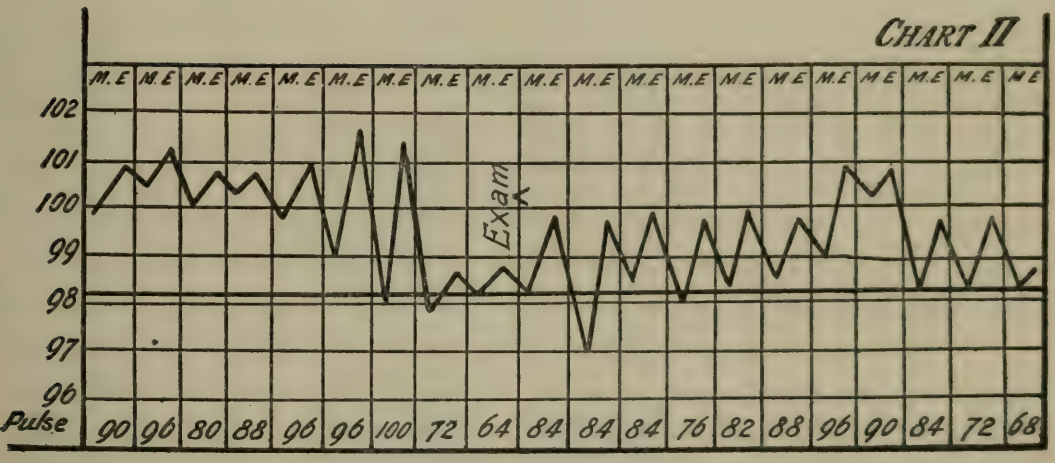


Chart II
M.E
102
101
100
99
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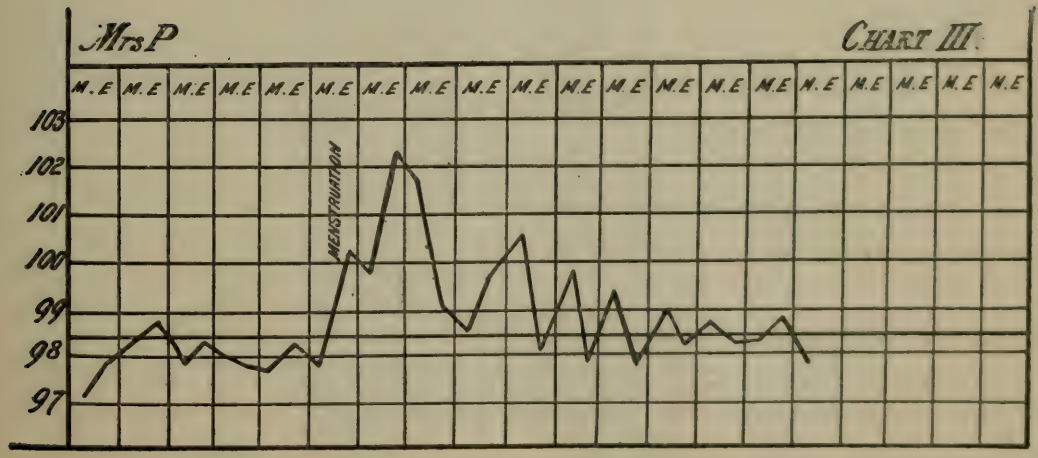
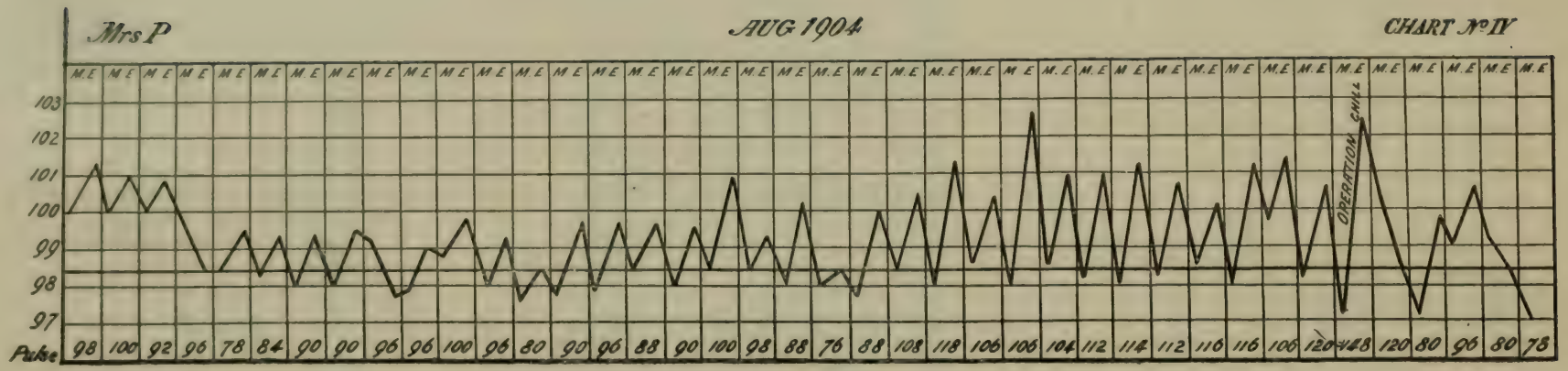
97
96
Exam
Pulse
90 96 80 88 96 96 100 72 64 84 84 84 76 82 88 96 90 84 72 68


Mrs P
Chart III.
M.E
103
102
101
100
99
98
97
MENSTRUATION


Mrs P
AUG 1904
CHART No IV
M.E
103
102
101
100
99
98
97
Pulse
98 100 92 96 78 84 90 90 96 96 100 96 80 90 96 88 90 100 98 88 76 88 108 118 106 106 104 112 114 112 116 116 106 120 128 120 80 96 80 78
OPERATION 3 PM

Not infrequently the signs are more marked on the right side in which event the case so far may be in no way distinguishable from an acute appendicitis. Yet if possible this distinction must be made for the treatment of the two conditions, adopting the latest teaching in appendicitis, is diametrically opposed. The history in these cases helps you little for it is often meagre, inexact and unreliable.

The diagnosis is often one of great difficulty and it can only be made by means of a careful and expert pelvic examination. The findings in such an examination are as follows, and please remember that I am dealing with a typical case.

The vulva and vagina show no acute inflammation save there has been a recent second infection, but the urethral mucosa is red and pouting and a muco-purulent discharge can be expressed therefrom. Skene's tubules are prominent and inflamed, while the openings of the Bartholinian ducts are the centre of small reddened areas, the *gonorrhœa maculæ* of the Germans. The vagina is hot, the fornices depressed and the edges of the os, catarrhal. The bi-manual reveals the uterus slightly enlarged, immobile and sensitive—movement of it in any direction causes pain. The appendages on either side are represented by two trumpet-shaped masses, the ovary and tube, swollen, enlarged and matted together, extending outwards from the uterus. These masses are of indefinite outline, varying size, position and consistence and are extremely sensitive.

Such then is the finding in a typical case and upon such data the diagnosis rests. The all-important points are these. The inflamed urethra, Bartholinian ducts, Skene's tubules and cervical canal indicating that an acute gonorrhœal inflammation has passed that way, while the bi-lateral involvement of the uterine appendages in an acute inflammatory process, sufficiently corroborates the matter. The case is one of gonorrhœal salgingo-ovaritis, an acute exacerbation with pelvic peritonitis. Where the palpable involvement of the uterine appendages is slight, unilateral, and on the right side the case is not so clear for the differential diagnosis between this condition and appendicitis is then very difficult and sometimes impossible, for the two conditions may co-exist. In such cases the presence or absence of the signs of gonorrhœal inflammation lower down in the genital tract must decide the matter.

The difficulty in diagnosis lies always in these acute cases and to illustrate this difficulty I show you the accompanying charts. These charts have been prepared for me by Dr. Goodall from cases in our hospital practice. Charts I and II are those of cases sent to hospital

for immediate operation, as acute appendicitis. These were difficult cases for, as you observe, the patients were acutely ill, a temperature of 100°-102° or even 104° F., and a pulse rate of 94-118, with all the signs of an acute peritoneal infection. But, however, the evidences of a gonorrhœal invasion such as I have indicated were manifest both above and below in the genital tract and upon these evidences the diagnosis of acute gonorrhœal salpingo-ovaritis was based. Operation was deferred, the patients put to bed with an ice-bag, and the subsequent history indicated on the charts, amply justified the decision.

Here, as elsewhere, I had almost said, more than elsewhere, the diagnosis is all-important, for the indication in these cases is not operation which at this time is always futile and frequently disastrous, but delay and a watchful passivity.

The prognosis in such cases is very generally good as regards life, for very seldom indeed does a general peritonitis or septicæmia develop. The process, acute as it may be, is usually a self-limiting one and terminates either in abscess formation or in more or less incomplete resolution. This abscess formation, be it tubal, tubo-ovarian or peritoneal, with ordinary care will not rupture and it can be dealt with, after the more acute conditions have subsided in comparative safety.

Treatment:—The great factor here is *rest, immobility*. The patient is to be kept continuously quiet in bed with light local applications of cold or heat over the lower abdomen, the bowels emptied by small enemeta or mild aperients, preferably castor oil, and nourishing liquids generously given. And this is all. Morphia is seldom required, but if necesssary it may be exhibited. Beyond the applications to the abdomen, no local treatment whatever is employed. The great object is to secure immobility to the parts, so to expedite and promote the limitation of the process.

Even if resolution occur slight relapses are the rule as some undue movement or slight trauma drives the infection further afield. Chart II. shows such a relapse following a bi-manual examination made by myself. I was careful to use no undue force, to exert little pressure and yet the slight movement was sufficient to institute a fresh infection. Chart III shows very well a common occurrence in these cases, namely:—a relapse produced by the trauma of the menstrual period. The temperature rose to 102° F.

The one thing to watch for in all these cases is abscess formation. Though the testimony of the chart can generally be trusted, yet a careful bi-manual examination must from time to time be made to determine the exact conditions in the pelvis. If abscess form, the pus must

be evacuated and, in such event, choice must be taken of the abdominal or vaginal route. The latter, the vaginal route, is always the route of election, for the abscess is then opened extra-peritoneally or under the roof of extensive adhesions, and from below, and drainage can be maintained simply by a T-shaped rubber tube.

In rarer cases, where the abscess remains intrinsic to tube or ovary, separately or conjoined, where their outline remains distinct and their high and discrete position in the pelvis is maintained, the abdominal route is chosen. The pyosalpinx, ovarian or tubo-ovarian abscess is removed *en toto*, either unruptured or after aspiration, and if necessary vaginal drainage is established, with complete closure of the abdominal incision.

A few cases run for weeks a more or less acute course with symptoms of pus formation and yet with no abscess discoverable by examination. Here a leucocyte count is of value, any enumeration above 12,000 being strongly affirmative.

Chart IV. illustrates such a case which ran for four weeks the course therein indicated. The leucocyte count was ambiguous, ranging from 9,000 to 13,000. Finally, I performed an exploratory posterior colpotomy tunnelling with my finger the large, firm, nondescript inflammatory mass in the pouch of Douglas and eventually entered and evacuated two small pockets of pus. The convalescence was thereby established and for three years her good health, considering the enormous deposit which persists in her pelvis, has been a matter for wonder and congratulation.

In all these acute cases whether the immediate issue be abscess formation or incomplete resolution, the later result, is always a residuum of chronic exudate and deposit greater or less in extent.

We come then to the clinical picture of Group II., cases of Chronic Gonorrhœal Salpingo-ovaritis.

The difficulty here is not one of diagnosis but of *treatment*. You all know the typical case. The woman is sterile, suffering and anæmic. Pelvic pain is more or less constant, her menstrual habit is depraved and her dysmsnorrhea a recurrent torture. The general health is impaired by the specific toxæmia, the origin of her neuralgia and rheumatic misery, and her life is one long martyrdom of suffering and disability. Truly in many cases were it better that the millstone be hanged about the neck.

The diagnosis is easily made. Though evidences of gonorrhœa may be failing in the lower genital tract, the uterus is found enlarged, sensitive, fixed, and very often displaced, while its appendages are transformed into ill-defined masses of various size, shape and consistence,

everywhere adherent and bound down, and frequently more or less completely filling the pouch of Douglas.

The lesion can only be confounded with tuberculous salpingo-ovaritis and that rarely. For in the tuberculous cases the history, the healthy condition of urethra and vulvo-vaginal glands, the evening fever, the presence of other tuberculous foci in, for example, the lungs or peritoneum, the occasional detection of pea-like nodosities at the uterine end of the Fallopian tube, as pointd out by Chrobak, and the possible discovery of tubercle bacilli in the discharges from the uterus, can seldom fail to establish a differential diagnosis.

The prognosis in these cases in respect of complete recovery is always bad, for even after all active mischief has ceased the results remain—the crippling results of disintegration and adhesions. The earlier in life the disease is acquired the more extensive and destructive is its spread. The infection only slowly burns itself out, more especially after the menopause has relieved the pelvis of the periodic trauma of menstruation, so that while there is little danger to life, in the worst cases, the consideration is often of the suspended millstone.

The Treatment: The first and great considerations here must always be palliative, though at the best this is a slow, tedious and exacting business. Concerning this palliative treatment I am personally a great believer in prosecuting a definite, rigorous routine, but for short periods and only at intervals. For example, a three weeks' course of treatment at, according to conditions, a three or six months' interval. In this way I believe you secure more actual results and the patient escapes the discouraging weariness of protracted medication.

During these three weeks the patient is confined to her room and very largely to bed with a specially trained nurse in attendance, and the following daily routine is established. In the morning she gets a large, hot vaginal douche, given slowly and in bed, with the hips elevated upon a douche-bath above the level of the shoulders. Two quarts of water, plain or medicated, are used at a temperature of 110-120° F., and eight or ten minutes are consumed in the process. A large, single-channeled vaginal nozzle is used, and at few second intervals the nurse by gathering the labia about its shank, checks momentarily the back-flow from the vagina. The object of the douche is for the time to apply a hot liquid poultice to the whole vaginal roof,—to the surface nearest the inflamed areas. Afterwards the vaginal fornices are lightly packed with several small lamb's wool tampons, saturated with the useful vehicle of hygroscopic glycerine and any counter-irritant, as iodine or ichthyol, that may be chosen. A large dry tampon is placed in the vagina

below and these are left in situ throughout the day. At night they are removed and a second vaginal douche is given, and throughout the night the vagina is left empty. Persistent localized pain is relieved by blistering the ovarian areas of the skin, either in front or behind. General nutrition is improved by deep massage of the thorax and extremities, but not, at least at first, of the abdomen,—an hour's treatment every second day; by a generous diet and the exhibition of iron and arsenic, with or without iodide of potash and one or other of the mineral waters. This treatment is continued for three weeks. At the onset of the menstrual period it is stopped, and thereafter the patient gradually resumes her customary mode of life, ordinary hygienic instructions and complete rest in bed during her menstrual periods being the only restrictions placed upon her.

It is good practice to advise change of air, short sojourns at any health resort and especially an occasional course at one of the Spas, either in our own country or in Europe. Failing this, Russian or Turkish baths at home are useful. The whole object of this treatment is to promote resolution and absorption in the pelvis and in many instances the good results arising therefrom are astonishing. Electricity in these cases is disappointing and when applied within the uterus is not altogether safe. Excellent results are claimed by the Germans in the use of hot air in the apparatus used at Griefswald by Klapp. This apparatus consists merely of a box, reaching from the ribs to the knees, in which the patient sits for from 15-30 minutes at a dry temperature of 120°—130° C.

Such then is the palliative treatment of these cases, and it is only when all these means have failed, and only as a last resource that operative measures are to be considered. These measures, however, when undertaken should be radical, carried out so as to extirpate the whole disease. Mere curetting of the uterus is seldom or never indicated, and is often dangerous, while partial ablation of the appendage mischief, the removal only of the organs most affected, is in general terms bad practice. Conservative surgery has small place here, for the very operation itself may prove the requisite trauma to set alight the disease in the organs that remain, and the last condition of that woman be worse than the first. But granted the absolute necessity of surgical intervention, cases not a few. where by pelvic suffering, existence is disabled and intolerable, then let the operation be thorough and complete. Take away the inner genitalia above the vaginal vault and as much as can be of the germ-infected parametrium, extirpate the local disease. And in

these cases the results are for the most part extremely satisfactory, the wisdom of the procedure is justified.

William Gardner, M.D. The subject so ably treated by the essayist is of the greatest importance, not only to the physician and surgeon, but to the general practitioner, when we bear in mind the vastly greater prevalence of gonorrhœa than is generally believed. Dr. Chipman very properly emphasizes the assistance to diagnosis of this disease in the appendages from evidence of its existence in the lower genital tract. Such evidences are found chiefly in those parts of the tract lined with columnar epithelium; the urethra with its Skene's tubules and the uterine cervical canal. Here we constantly find it when the vagina may be entirely free. To avail of such evidence it is important that the parts be inspected before the patient is allowed to pass water, as otherwise the flow of urine may remove temporarily the discharge. The value of such suggestive or presumptive evidence in the diagnosis of appendicitis from gonorrhœal inflammation of the uterine appendages cannot be overestimated. Their co-existence must, however, of course be borne in mind.

As regards the bimanual examination a word of caution seems to be in place—great gentleness to avoid the rupture of adhesions limiting an actively infective collection. The same thing is true of another condition, ectopic gestation, which may be confounded with the conditions under consideration. It is obviously far better to remain undecided as regards the nature of the case than to put the patient in danger by the method of examination.

With regard to tuberculous disease of the uterine appendages, now known, as Dr. Chipman has remarked, to be much more frequent than formerly supposed to be the case, it is to be strongly suspected in young women in whom by history and careful examination evidences of gonorrhœal and puerperal infections may be excluded, especially if the case has run a very chronic course. In a number of such in my experience when first seen there was no elevation of temperature, a moderate amount of pain, failure of general health, and if the endometrium was not involved, arrest of menstruation. Diagnosis in many cases will, however, only be made at the operation and by microscopic examination. A similar diagnosis of tuberculosis of the bladder in young women suffering from chronic cystitis may be presumed when all evidence of gonorrhœa or puerperal infections can be excluded.

I wish to add a word in favour of conservative surgery in dealing with the diseases of the uterine appendages, especially in gonorrhœal cases. I am quite sure I have seen patients recover completely after removal

of the tube and ovary of one side, and I firmly believe in the possibility of complete recovery without operation, of mild gonorrhœal infections of the appendages even to the extent of restoration of the highest function of the sexual organs, conception and parturition. This may be an extremely important matter to any married woman and therefore I think that unless the disease is extensive, in operating it is a duty to retain some part of the organs concerned. Recovery from a mild attack of gonorrhœa in the tube may be favoured by syringing with a germicide solution. If surgical technique had not reached its present stage of comparative perfection, radical measures would be more justifiable. Now, however, we may the less hesitate to be conservative even at the risk of necessity for a second operation.

EXTENSIVE SYPHILITIC NECROSIS OF FRONTAL BONE—REMOVAL OF BONE—PLASTIC REPAIR.

BY

CLARENCE GRAY, M.D.,

AND

EDWARD ARCHIBALD, M.D.,

Assistant Surgeon Royal Victoria Hospital.

In these latter days of more accurate diagnosis and more thorough treatment it is comparatively rare to come across such a serious syphilitic lesion as that indicated in the title of this report. This, together with the fact that the large defect was successfully covered by means of a plastic flap, may serve as sufficient justification for the publication of the case. Dr. Gray reports the history up to the time of the patient's being sent to the hospital, and Dr. Archibald's report of the surgical procedure follows.

Mrs. M. H., aged 32 years, occupation, that of housewife, was seen for the first time in October, 1904, when she complained of an "ulceration and discharge from the forehead."

The history of the illness dated from a fall down a flight of stairs in June, 1903. In falling she struck her forehead rather violently, yet there was no abrasion of the skin, and in a short time she thought no more of the accident. Some months after this, the onset being so insidious that she does not remember the exact date, she began to suffer from severe frontal headache, which was largely nocturnal, and prevented sleep. The headaches continued until in June, 1904, *i.e.*, about one year after her fall down the steps, she first noticed the appearance

of a swelling on the forehead. This swelling soon attained the size of half a hen's egg; it was rather circular in outline, painless, and only became reddened after she had poulticed it. It broke after a few days poulticing, and discharged abundant pus, leaving exposed bone at the base of the ulcer. After that time up to October, 1904, the ulceration gradually spread and exposed a larger area of bone.

As stated above, she did not apply for advice until October, 1904, though suffering from so much inconvenience and disfigurement.

Personal History:—She had typhoid fever when 17 years of age; otherwise had always been healthy and was so until about one year after her marriage in 1896. The first trouble she noticed was a "sore throat" which caused a loss of voice extending over several months. She cannot remember having had a rash on the body or face. She has had in all three children and one miscarriage. The children, she states, seemed all right when born, but they soon developed the "snuffles," and did not gain in weight to any extent. The first died when only eight months old., The second only reached five months; it had chronic diarrhœa as well. The third child died at three months. None

of the children exhibited any rash on the body, but they were pale, wizened infants without vitality.

The miscarriage interrupted her last pregnancy and occurred during the second month, and without any exciting cause apparent to her.

In 1900 she had an operation at another hospital for the removal of a portion of bone from the hard palate. She now has a permanent fistula in the roof of the mouth connecting with the left nasal cavity.

Patient's habits have always been good in regard to alcoholics, and during the last three years she has been a total abstainer.

The Family History:—Contains not much of interest, except that her mother and two maternal aunts died of pulmonary tuberculosis. One sister died, aged three years, cause unknown. Her father is still alive, aged over 60.

Present Condition:—Patient is a woman of apparently the age stated, well built and fairly muscular, subcutaneous fat in fair amount. Mucous membranes rather pale. Teeth normal in shape and in good condition. She has a rather husky voice owing to the fistula in the hard palate.

Integumentary and Osseous System:—In the median line of the forehead is a round area of uncovered bone, about 2½ inches in diameter, and of a dull, somewhat yellowish appearance—plainly dead bone. It is entirely denuded of periosteum, and in spots appears eburnated. Other areas seen less dense and show minute perforations. The margin of the skin is raised, reddened, and undermined; and discharges an abundant thin pus.

The husband denied having had venereal disease. Nevertheless, a diagnosis of syphilitic necrosis of the frontal bone was made upon the following points: (1) the history of previous bone necrosis in the hard palate; (2) the story she told of her children and her miscarriage; (3) the peculiar punched-out look of the ulceration, so characteristic of syphilitic lesions; (4) the extent and the situation of the bone necrosis. The syphilis was no doubt an acquired one, for she presented no evidence of depressed nasal bones, Hutchinson's teeth, etc.; and had always enjoyed good health until about one year after marriage. The fact that she never remembers having had a rash is no strong evidence against the diagnosis of acquired syphilis, as a rash is so easily overlooked.

She was sent to the Surgical Outdoor of the Royal Victoria Hospital, where she came under Dr. Archibald's care.

The patient was treated in the Outdoor Department through a period of three months with increasing doses of Pot. Iodid. without evident result. Finally she consented to operation, which was performed Janu-

ary 27, 1905. Upon reflecting the scalp by a crucial incision, a line of demarcation, irregularly round in outline and exuding pus was discovered, running about half an inch behind the edge of the ulcer, and more or less parallel with it. The natural separation of the sequestrum, however, as it usual with luetic necrosis, was very imperfect in places and the removal correspondingly difficult. All the dead bone being removed, the dura lay bare over an extent of close upon 3 inches transversely and 2½ vertically. It was considerably thickened and covered with dirty granulations—a syphilitic pachymeningitis. The bone edge of the defect was moderately thickened; but the appearance of the two tables differed materially, the outer being greatly eburnated, while the inner, though somewhat dense, more nearly approached the normal. Of diplœ as such nothing could be seen.

The wound gradually became covered, with healthy granulations; but the bone edge soon showed small areas of necrosis. On March 30, therefore, the flaps were again pushed back with the raspatory, and the lining edge of dead bone chiselled away. This was found to belong to the eburnated outer table alone, the inner table retaining its vitality, and it became evident that our mistake had been in shoving back periosteum too far in removal of the bone edge, thus cutting off a great part of its already precarious blood supply, and inducing further necrosis. And, indeed, one might have remembered that, although the eburnation was a luetic manifestation, it was so only as a secondary reactionary process, the response, in bone sclerosis, of the organism to the syphilitic irritation. Being such, it was living; and being outside the zone of total bone necrosis, there was no need to go on chiselling it off till one came to healthy bleeding bone.

Subsequently, a few more minute particles of dead bone were removed in the Outdoor Department, and on April 20th, the wound showing healthy granulations, it was decided to proceed with the repair of the defect by means of a flap raised from the anterior surface of the left forearm. The defect to cover measured 3½ inches transversely by 2½ vertically. The flap included skin and subcutaneous tissues with a small amount of the subcutaneous fat; the pedicle lay at the bend of the elbow. With the forearm obliquely across the forehead, a half-turn was sufficient to bring the flap into position, when it was secured with silk-worm gut sutures without tension. Long strips of adhesive fastened the arm to the head and shoulders; and this position was maintained for ten days, the discomfort being largely relieved by considerable doses of morphia.

On April 30th, under stovaine local anæsthesia, the pedicle was cut. Unfortunately, asepsis had not been successfully maintained, so that the edges had failed to unite save over a small area. Nevertheless, good union of the under surface of the dura had taken place, and this sufficed to maintain the vitality of the flap; while the skin edges united in due time by granulations. The resulting scar was larger than it would otherwise have been, and shows up in the photograph more unfavourably than in the fact. It is, however, successfully concealed, except the lowermost corner between the eyes, by a "front" of false hair.

The wound in the forearm was closed as much as possible at the time of operation. Later it was skin-grafted. Scar contraction, as a late result, now prevents full extension of the forearm, but causes very little inconvenience.

The brain pulsation is very plainly seen in this bone defect; and we hope that the case may form the subject of a few blood-pressure observations. It may be remarked, incidentally, that the pulsations are very markedly increased in force and rate if the patient gets "in a passion"; indeed, she tells us, naively enough, that these have already served, as

did in Dickens's day, the hysterical heel-tappings of Mrs. Pott, to intimidate an aggravating husband and bring him to reason.

In the presence of this very extensive destruction both of bone and soft parts, it becomes a point of some interest to determine the primary situation of the gumma. There are two or three reasons which make one believe that this must have lain in the diploë. The severe nocturnal headache coming on months before the appearance of the skin lesion; the involvement of the whole thickness of the bone, and also of the external surface of the dura, with the total absence, on the other hand, of any symptoms of cerebral lesion; all this would point to a diploetic origin, rather than a periosteal or dural one.

Another interesting point in this case concerns the prognosis as to the repair of the bone defect. A fair number of instances have been reported, in which enormous defects in the skull have been gradually obliterated by bone regeneration. In a 17 year old girl, Hofmeister (quoted by V. Bergmann) saw a defect of 150 square centimetres, occasioned by the removal of a sequestrum, become reduced in the course of 10 years to one of 4 sq. cm. In the present case, a recent examination shows already, after a lapse of 5½ months from operation, a very considerable filling up of the gap with new bone. This is proceeding mainly from the upper edge in its whole length, and has covered in about one-third of the defect, the area of brain pulsation now measuring 1¼ in. vertically by 1 in. transversely. No doubt both inner table and dura are actively forming new bone. The raised sharp edge of the eburnated outer table remains exactly as it was left at operation, and probably takes not the least share in regeneration.

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SIR JOHN BURDON-SANDERSON.

To those upon this side of the water who never set eyes upon the man, the abundant tributes to Burdon-Sanderson in the English medical journals of this month will have occasioned some surprise. Save his classical article upon Inflammation, contributed to Holmes System of Surgery, now more than a generation ago, there is little in medical science with which the practitioner of to-day is likely to associate his name, unless he recalls that he was successively Professor of physiology at University College, London, in its palmiest period, and then at Oxford, becoming later Regius Professor of Medicine in the same old university, a post in which he was followed by Dr. Osler. And yet, despite the paucity of apparent results of his life work Burdon-Sanderson was a great man: he was one of the English masters of medicine of his epoch.

One had but to find oneself in his company for a moment to realize this. For he was unforgettable. A gaunt frame, tall above the ordinary, was surmounted by the handsomest-ugliest head in all Britain: broad of brow, prominent of cheek-bones, strong but sharply chiselled in jaw, and over all nature had been at her stingiest in stretching the skin so that Caledonia and Albion might have been his nurse—indeed, he came from the Northumbrian border. Added to all this, the deep-set eyes appeared to be travelling habitually across vast unsounded seas of thought, and gave to the whole rugged face an expression at once scholarly and noble.

Sir John in short, to quote Professor Sherrington, was an "intellectual," and herein lay his singular strength as also some of his weakness. With great endowments, occupying the position that he did at one of the most remarkable periods of physiological and medical advance one is forced to compare him with his peers in other countries, and the comparison is to his temporary disadvantage. In his manifold interests he reminds us of Virchow. Thus, during his long career, he had been lecturer on botany, medical jurisprudence and physiology, hospital-physician, medical officer of health, and adviser of the Government upon health matters, superintendent of an institute for comparative pathology, professor of physiology in two universities, and, finally, Professor of Medicine, and Dean of his School. But his output compares neither in amount nor in importance with that of the great Berlin *savant*. Prior to Pasteur and to Koch he was studying infection, and with a sure prescience recognized the part played by microbic agencies; nevertheless he cannot be counted among the founders of bacteriology. A pupil of Wurtz, he started the first laboratory of physiological chemistry in Great Britain, but we can recall not a single advance along these lines in which he was directly concerned, although we freely admit that he recognized the importance of the subject that now occupies so leading a position years in advance of most other workers.

These facts notwithstanding, he was a great man, great in his influence upon others, loving his science for its own sake, possessing and exhibiting the loftiest ideals in his work, a seeker after truth. His pre-eminently was the search after exact facts; for these he had a love bordering upon worship. His weakness lay, we think, in regarding facts as equally valuable provided they were equally exact and precisely determined. As it was, he chose muscular activity as his main subject of study, and this because muscle lends itself so admirably to precise measurement and record of electrical and other changes occurring within it. But it must be confessed that the results obtained by him have

had relatively little influence upon the physiological and medical advance, or, more exactly, have not been along the direct line of that advance. Do not let it be thought that we would in any way depreciate research conducted purely for science sake. We would but give as our opinion that, granted that there are two or more problems presenting themselves for solution, each affording equal opportunities for the employment of exact methods, that man is wise in his day and generation and is more likely to be of service to his kind, who selects the one which has the greater promise of yielding results capable of direct application. Thus, for example, Sir John was satisfied to conclude that infection was due to microbic agency. Logically he had proved the case, and there his interest seems largely to have ceased. He did not seem to see the great gain there would have been in devoting himself to continued investigations along these lines. Again, the phenomena of muscular, rather than of cerebral, activity became his choice. But, as we say, this notwithstanding, he was a great man, and his particular greatness lay in his transparent love for truth, in the influence he brought to bear at the right period not merely upon his pupils, among whom may be counted Sir Victor Horsley and Professors Halliburton and Gotch, but upon all with whom he came in contact, and the ardour that he instilled into them for exact and honest research. He was no dexterous manipulator of instruments—it was only when he was over 30 that he began active laboratory work—the wonder is that, beginning so late he accomplished so much. His reading and knowledge impressed us as being singularly wide rather than deep. But he could, by his own personality, inspire others; and throughout his life the loftiness of his mind and the singleness of his aims had a healthy influence upon biological science in Great Britain.

THE MEDICAL SOCIETY.

A new departure was instituted when, on December 8th, the members of the Montreal Medico-Chirurgical Society responded to the invitation of the Medical Board of the Royal Victoria Hospital and attended a clinical meeting, which was held in the vacant ward in the east wing. Over a hundred were present, and the hosts issued a neat programme of the meeting. In one part of the ward, specimens of various kinds were displayed, with labels to explain them; these were specimens of morbid anatomy, microscopic sections, X-ray photographs and other things of interest.

After a preliminary examination of specimens, the chair was taken by Dr. Roddick, and the vice-chair was occupied by Dr. England. Dr. Martin showed a large spleen, freely moveable, dislocated from its site, the increase in size being due to malaria.

Dr. Garrow showed a case of excision of the temporo-maxillary joint, and a wrist injury which resembled in appearance a Colles' fracture, but in reality was a backward dislocation of certain of the carpal bones. Dr. Byers showed a case of a long-continued recurrence of sarcoma of the choroid, where evisceration of the orbit had been done seven years after primary occurrence of the tumour; he also showed a metastatic gonorrhœal conjunctivitis. Dr. Jamieson showed the results of two cases of submucous resection of the nasal septum (which procedure was described in the Retrospect of Laryngology of this Journal for November), and further showed a case of syphilitic perforation of the soft palate in a girl of 15, in whom the disease is congenital.

Ten minutes was allowed for the examination and demonstration of the living cases, after which Dr. Bell reported his last two cases of actinomycosis, of which Dr. Keenan demonstrated the specimens. Dr. Archibald followed with the notes of a case of pancreatitis, in which the specimens displayed showed a very diffuse fat necrosis, and Dr. Gardner presented several remarkable gynecological specimens — colloid ovarian cysts, a bilateral tuberculous salpingitis, and a fibroid with pregnancy, while Dr. Evans exhibited skiagraphs of a rachitic case which suffered Cæsarean section. Dr. Hamilton presented two cases of malignant disease of the lung, and Dr. Adami presented the pathological specimen. Dr. Birkett presented a case of ankylosis of the arytenoid articulations, which had occurred in a progressive stenosis of the larynx. Dr. Klotz presented specimens showing the disease which may be described as "clinical arterial sclerosis," which is the disease manifested in the radial arteries, which differs from the "pathologists' arterio-sclerosis" so often found in the aorta. Dr. Goodall showed a large hydrosalpinx. Dr. England moved, and Dr. Shepherd seconded, a vote of thanks to the Medical Board of the Hospital, to which Dr. Bell replied, pointing out that a meeting of this sort allowed the showing of cases that could not be brought to the rooms of the Society. He expressed the hope that this would be the forerunner of other meetings of this kind.

INTERNATIONAL MEDICAL CONGRESS.

The Fifteenth International Medical Congress will assemble at Lisbon, Portugal, during the week from the 19th to the 26th of April, 1906.

The official language of the Congress will be French, but in the general sessions, as well as in the meeting of sections, in addition to French, English and German will be made use of. There will be in all seventeen sections. The President is Conz Costa Alemao, and the Secretary General is Professor Miguel Bombarda, of Lisbon, to whom all general communications regarding the reading of papers may be addressed.

Most of the countries will be fully represented at the Congress through the National Committees. For the United States, Dr. John H. Musser, of Philadelphia, is President, and Dr. Raymond Guiteras is Secretary. The executive committee of the Canadian Medical Association has appointed Dr. A. McPhedran as President, and Dr. W. H. B. Aikins as Secretary for Canada, to act in conjunction with the International Committees of the Congress.

It is desirable that Canadians who propose to attend this Congress should put themselves in communication, as soon as possible, with either of the above named. This is the first International Congress at which Canada will have representation.

What personal qualities are essential, under modern conditions, for eminent service in medicine? This question will be answered by Dr. Osler in the *Atlantic Monthly* during the present year.

It is announced that the *Medical News* and the *Philadelphia & New York Medical Journal* is consolidated under the management of the A. R. Elliott Publishing Company.

In the review of Rockwell's "Dissecting Manual," which appeared in the December number of the JOURNAL, an error occurred. It was stated that it was a synopsis of Cunningham's Anatomy, "and the first edition at that." It is, in fact, based upon the second edition which was issued at the same time by the same publishers, Messrs. Wm. Wood & Company. At first sight it did not appear to the reviewer that one book could be a synopsis of another which appeared in the same month. The publishers have taken the pains to inform us that it was prepared from advance sheets.

ROYAL VICTORIA HOSPITAL.

Monthly report for November: Patients admitted during month, 258; patients discharged during month, 238; patients died during month, 21; medical, 88; surgical, 96; ophthalmological, 14; gynæcological, 41; laryngological, 19. Out-Door: Surgical, 701; medical, 484; eye and ear, 297; diseases of women, 110; nose and throat, 398. Total, 1,990. Ambulance calls, 81.

Reviews and Notices of Books.

Anatomy and Physiology for Nurses. By LeRoy Lewis, M.D., Surgeon to Lewis Hospital, Bay City, Michigan. 312 pages, with 100 illustrations. W. B. Saunders & Company, 1905; J. A. Carveth & Co., Toronto. Cloth, $1.75 net.

The author's trust, as expressed in his preface, has been verified: the present reader has found not only "something," but much "to commend." As a rule, the smaller a book is, the more inaccurate it is. The present volume is neither inaccurate nor small. So long as nurses think they must know anatomy and physiology, they will find this work all they could desire.

Diseases of the Eye. By L. Webster Fox, A.M., M.D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia. With five coloured plates and 296 illustrations in the text. New York and London, D. Appleton & Co.

This new text book on diseases of the eye, by Dr. L. Webster Fox, is to be classed among the larger works on the subject. The book, as the author himself states, is the outgrowth of a series of lectures delivered at the Medico-Chirurgical College and Hospital of Philadelphia during the last ten years. It is very succinct, and at the same time clear; the illustrations are exceedingly good, as are also the anatomical plates. All the latest facts, both in diagnosis and treatment of the various diseases are elucidated; and taken as a whole, this treatise leaves little to be desired. At the end of the book is a glossary, which is rather a novelty in works of this description. The treatment of diseases of the lacrymal duct is fully entered upon. The articles upon albuminuric retinitis, and lid operations, are especially worthy of commendation. The diseases of the orbit are also much more fully treated of than usual.

J. W. S.

Medical Diseases of Egypt. By F. M. Sandwith, M.D., F.R.C.P., Consulting Physician to H.H. The Khedive, and formerly Director of the Sanitary Department of Egypt. Part I. Henry Kempton, 13 Furnival Street, Holborn, E.C., 1905. Price, $2.00 net.

This is a book which possesses many attractions. Besides the information of a medical nature which it contains, its literary grace gives it an additional interest. It is full of information presented agreeably,

and to read it is a profitable and pleasant task. The historical references are abundant, and not the least entertaining part of the book. The chapter upon plague is very informing, and contains the newest views upon that malady.

PROGRESSIVE MEDICINE; A Quarterly Digest. Edited by HOBART AMORY HARE, M.D., assisted by H. R. M. LANDIS, M.D., December 1st, 1905. Lea Bros. & Co. $6.00 per annum. Vol. vii, No. 4.

The contributors to this volume are: William T. Bellfield, M.D., Joseph C. Bloodgood, M.D., John Rose Bradford, M.D., F.R.C.P., H. R. M. Landis, M.D., and J. Dutton Steele, M.D. The subjects considered are: Diseases of the digestive tract and allied organs; liver, pancreas and peritoneum; anæsthetics; fractures, dislocations, amputations; surgery of the extremities, and orthopedics; genito-urinary diseases; diseases of the kidneys; practical therapeutic referendum. We note two references to work done in Canada, one of them to Dr. Richer's experience with Marmorek's serum. This number is unusually good.

INTERNATIONAL CLINICS; A Quarterly. Edited by A. O. J. KELLY, M.D., Volume III, 15 Series, 1905. J. B. Lippincott & Co., Philadelphia; Charles Roberts, Montreal.

The contents of this volume are:—*Treatment*: The therapeutic uses of the Roentgen Rays, or Radiotherapy, by George C. Johnston, M. D. The action of metallic ferments on metabolism, and their effects in pneumonia, by Albert Robin, M. D. The musculo-tonic and diuretic action of formic acid and the formiates, by Henry Huchard, M.D. The symptomatic treatment of tuberculosis, by Noble P Barnes, M.D. The opotherapic treatment of renal insufficiency, by Professor Teissier, M.D., and Serumtherapy, by John W. Wainwright, M.D.

Medicine: Mucous colic, or membranous colitis, by Alexander McPhedran, M.D., Toronto; Injuries and lesions following the toxic use of alcohol, by T. D. Crothers, M.D.; Uucer of the stomach with contractions, in a boy aged 14 years; cerebral hæmorrhage and lumbar puncture; curable albuminuria, by John A. Robinson, M.D.; Addison's disease, by Edward F. Wells, M.D. A case of chronic jaundice and great enlargement of the liver, due to primary carcinoma of the extrahepatic bile ducts, commencing at the junction of the hepatic ducts, by F. Parkes Weber, M.D., F.R.C.P., and E. Michels, M.D., F.R.C.S.

Surgery: Fractures of the patella, by J. Sherman Wright, B.S., M.D., Paraffin injections by the "cold" process, by M. Broeckaert, M.D.; Ethyl chlorid, its value as a general anæsthetic, by Thomas D. Luke,

B.S., F.R.C.S. (Edin.); the differential diagnosis of tumours of the right hypochondrium, by Th. Tuffier, M.D.

Neurology: Acute anterior poliomyelitis, with special reference to the stage of invasion, by Sanger Brown, M.D.; Paralysis agitans; hemiplegia; combined sclerosis and ataxic paraplegia; locomotor ataxia; acute confusional insanity, by Daniel R. Brower, M.D., LL.D.

Dermatology and Syphilis: Syphilitic necrosis of the frontal bone, by A. H. Ohmann-Dumesnil, A.M., M.E., M.D., Ph.D.

Rhinology: Notes on the treatment of hay fever and asthma, by Charles H. Knight, M.D.; Carbonic gas applications in rhinitis, by A. Rose, M.D.

Ophthalmology: Major trauma of the eye in general practice, by William T. Shoemaker, M.D.; Gonorrhœa and conjunctivitis, by William George Sym, F.R.C.S. (Edin.).

Pathology: Cirrhosis of the liver, by Richard Kretz, M.D.

JACKSON ON THE SKIN. By GEORGE THOMAS JACKSON, M.D., Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. Fifth edition, enlarged and thoroughly revised. 12mo., 676 pages, 91 engravings and 3 coloured plates. Cloth, $2.75 net. Lea Brothers & Co., Philadelphia and New York, 1905.

The fifth edition of this book retains the character which has made it so popular in the past as a ready reference for other than the specialist, namely, alphabetical arrangement of the diseases, concise descriptions of the symptomatology and diagnosis, and a more extended review of the treatment. The book has been brought strictly up-to-date by the inclusion of most of the rare forms of disease.

LECTURES ON THE PRINCIPLES OF SURGERY. By CHARLES B. NANCREDE, A.M., M.D., LL.D., Professor of Clinical Surgery in the University of Michigan. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders & Co., 1905; Toronto: J. A. Carveth & Co.

Much as we appreciate the general clearness of Dr. Nancrede's style and the often admirable sections upon the rationale of treatment we cannot recommend this work, and that because purporting to be an exposition of the principles of surgery it supports views which we believe to be incorrect: and bases itself at the outset on these views. That the straightforward exposition has interested us we freely admit, but this is a very different matter from endorsing the work for students

or practitioners who desire to gain a correct appreciation of the principles of surgery.

The author at the beginning lays down authoritatively that there is no such thing as "aseptic inflammation"; inflammation "is always due to the action of germs or their products." This he contends is the only logical as well as the scientific view. Unfortunately the logic he adduces in support of this contention cannot be called logic and what is illogical is not strictly scientific.

Here, for instance, is an example of the method of argumentation employed (p. 19):—"I believe and trust that I shall demonstrate that there is only one process of repair, which, when progressing undisturbed, has been mistermed 'aseptic inflammation.' When microbic invasion has been successful certain modifications of the process of repair occur owing to interference with the normal processes, which modifications all confess to be inflammatory and essentially destructive." . . . . [Here follows a sentence without a verb, which, if it means anything, ought to mean the opposite of what it syntatically infers, and next] . . . . "When the disturbance is removed, the original reparative processes are promptly resumed just where they were interrupted and they proceed exactly as if nothing abnormal had occurred."

"Hence there is no room for such term as 'aseptic' and 'infective' inflammation, but only for 'repair' and 'inflammation' because the latter is always due to the action of germs or their products."

It is not often given to us to encounter in print so pretty an example of the vicious process of arguing in a circle. For what is the argument in its simplest terms. It is as follows:

I believe that there is only one process of repair.

When microbes enter a tissue they set up inflammation.

When they are removed the inflammation ceases and repair alone proceeds.

Therefore, there is only one process of inflammation, and there is only one process of repair.

In passing we would remark that all pathologists do not admit that the modifications set up by microbes are essentially destructive. Some are characteristically proliferative, and we would ask what Dr. Nancrede means by the processses proceeding "exactly as if nothing abnormal had occurred." The very setting up of the reaction is an indication that something abnormal had occurred.

The author next argues that true pus cannot be produced by non-microbic agencies, only a pyoid fluid. Here again the argument rests upon another "ipse dixit." To all intents and purposes he lays down

that true pus cannot be injected into other animals without producing the results which follow the injection of true pus. The 'pyoid fluid,' he states, does not produce those results, if it does not contain a sufficient amount of original irritant. We may equally urge that "true pus" due to microbic irritation may come to be devoid of bacteria and produce upon injection as little effect as do the results of sundry non-microbic irritants. No one, we imagine, but our author would seriously lay down that the essential features of pus is the presence in it of bacteria and bacterial toxins. It is generally conceded that the essential feature of pus is that it is a fluid containing a preponderating number of leucocytes, living and dead.

Here (p. 21) is yet another argument: "Most of the statements usually made by teachers and in text-books are irreconcilable with the microbic causation of inflammation, *hence* if these be true the germ theory is in fact exploded, and should be abandoned."

We have carefully read through Dr. Nancrede's work and find no arguments or considerations of greater strength than these. One and all may be summed up thus: I state that microbes are the sole cause of inflammation, therefore, inflammation is always and only of infectious nature.

With all due deference we would propound that Dr. Nancrede's opinion by itself, contrary, as it is, to the opinions of every pathological of note, is insufficient to convert us from the belief which has come down to us from the centuries, that all conditions associated with redness, swelling, heat and pain, however caused, are to be regarded as inflammatory, and, we would add, all conditions which proceed from like causes and microscopically are found to present like tissue changes. To prove his contention it was necessary for our author to show that the changes which are brought about by microbic irritants are essentially different from those induced by those of other causes of local injury to the tissues. Unfortunately this cannot be done. Non-microbic irritants produce the same order of changes, the only differences being of degree not of kind. Nor is that a constant distinction. The other characteristic is that through microbic growth within the tissues the toxins act not momentarily but continuously until they become neutralised: but here again recurrent and continuous action can be reproduced by certain non-microbic agencies.

In short, the position assumed by our author is untenable, and when a book upon principles is based upon a wrong premise it cannot be safely recommended.

J. G. Adami.

A Text Book of Physiology: for Medical Students and Physicians. By William H. Howell, Ph. D., LL.D., Professor of Physiology, Johns Hopkins University, Baltimore. Octavo volume of 905 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $4.00 net; half morocco, $5.00 net. Canadian agents, J. A. Carveth & Co., Toronto.

This book calls for more than a passing notice both on account of its own excellence and because of the eminence of the author.

In the preface the author lays down certain principles which have guided him in the preparation of the work. He claims that in writing a text-book for beginners it is necessary to bring within reasonable limits the amount of material; and the necessary reduction should be made by a process of elimination rather than by condensation. The author must assume the responsibility of sifting the evidence and emphasizing those conclusions that seem to be most justified by experiment and observation. He points out that at the present time certain parts of physiology offer peculiar difficulties to the writers of text books. Some former views have been unsettled and much information has been collected which at present it is difficult to formulate. A text book can only hope to give as clear a view as possible of the tendencies of the time.

When we examine the body of the work to see how he has carried out his intentions as indicated above we find a book written in a clear literary style and pervaded throughout by a highly scientific spirit. It does not, it is true, supply many props for the feeble-mind in the form of either analogies or diagrams and the illustrations are fewer in number than in most text books of its size. On the other hand we feel in almost every part of the work that the author has culled his information at first hand from original sources, and we may say that he has presented his material in such a way that we have read chapter after chapter with great delight and with little feeling of weariness.

We looked with interest to see the position taken with reference to certain debatable fields of physiology. First as to whether our author takes his stand with the modern representatives of the old vitalists who attribute much to the selective activity of the living cell or with those who seek to explain all physiological processes by the ordinary laws of physics and chemistry. With this question in our own mind we turned to his accounts of lymph formation, urinary secretion and the cause of the heart beat. We find that on the whole he inclines to the mechanical view, but he is not by any means blind to the other side of the question.

In connection with lymph formation he gives at considerable length the secretory theory as formulated by Heidenhain and the facts on which

it is based, but he considers the facts brought forward in opposition by Ludwig and more recently by Starling as even more convincing. He concludes by accepting "provisionally at least" the so-called mechanical theory. In the account which he gives of the secretion of urine he turns his back upon the Ludwig school and joins hands with Heidenbain who advocated the view that urine is secreted by a selective action of the kidney-epithelium and not, as Ludwig taught, by a mechanical process, of filtration and diffusion. In discussing the seat of the rhythmic activity of the heart he describes certain experiments which point to its being a function of the intrinsic nerve cells, but attaches greater weight to other facts which seem to indicate that rhythmicity is a function of the muscle fibres themselves. He suggests the presence of proper proportions of inorganic salts in the blood as being perhaps the essential stimulus for the heart beat by virtue of the cations (calcium, potassium and sodium) which these salts contain. He concludes by giving his adherence to the myogenic as opposed to the neuro-genic theory of the heart beat.

Many text books entirely ignore the question of the essential nature of a muscle contraction, but here we find several theories mentioned, the prominent place being given to that of Engelmann who compares a muscle contraction to the shortening which occurs in a catgut violin string when it imbibes moisture under the influence of heat. If the theories of muscle contraction are to be given in a students text book at all we should like to see a place found for that of McDougall (Journal of Anatomy and Physiology, vol. 32), who believes that the muscle element changes in shape by taking in water under the influence of an osmotic force; that this in turn depends upon the breaking up of a complex constituent of the muscle element into smaller and more numerous molecules.

In the section of the book devoted to the respiratory functions of the vagus we are very glad to find the truth recognized that the normal rate of respiration is maintained by the action of the inhibitory fibres alone. The review columns of this journal have repeatedly emphasized this fact but until now most text books have persisted in explaining the normal rate of breathing by the alternate action of inspiratory and expiratory fibres in the vagus, an explanation which we have long believed to be at variance with the truth.

There are a few points in the book on which we feel inclined to take issue with the author. On page 61 he makes the statement that the creatin of the muscles is eventually excreted in the urine as creatinin. He qualifies this statement towards the end of the book, but we think he should refer here to the very prevalent idea that most of the muscle crea-

tin is broken up in the muscle into ammonia compounds and eventually excreted as urea. We entirely disagree with the explanation given of the predicrotic wave of the pulse as being an elasticity wave due to vibration of the arterial wall. We note that the reference given in this connection bears the date 1872 and we think that if the date were more recent the explanation would refer this wave to the ventricle as it is found not only in the curve of intra ventricular pressure, but even in tracings from the excised ventricle of the frog (Marey). In our edition figure 214, is smudged so as to be undecipherable, and there is a misprint on page 524 where increased is put for decreased on line 12.

We note with interest that a number of the best illustrations consist of tracings taken by an old Montreal physician, Dr. Percy M. Dawson, who is associated with Dr. Howell in the chair of physiology.

On the whole this is the best text book on physiology that has come to this journal for review for a very long time and we wish it every success. W. S. M.

MOVABLE KIDNEY, a cause of insanity, headache, neurasthenia, insomnia, mental failure and other disorders of the nervous system, a cause also of dilatation of the stomach. By C. N. SUCKLING, M.D., Birmingham, London, H. K. Lewis, 1905.

We have thought worth while reproducing in full the title of this book on account of its singular similarity to those headlines with which the daily papers are adorned. An examination of the book confirms this impression. It begins with an attack upon a respectable member of the profession, it has pictures of patients "before" and "after"; it has *fac similes* of letters from grateful patients; and it contains the usual challenge to unbelievers. The dedication of such a book to "my wife" must be distasteful to a woman of good sense; though acknowledgement is made, "for much valuable help in writing the book," to this lady, "who suffered many years from dropped kidney and who is now cured." We have no desire to pry into these domestic affairs; but it is evident that the possession of an aberrant kidney is not sufficient qualification for such a task of collaboration. If Dr. Osler persists in his ignorance of the results of this condition, and continues to diagnose it as mucous colitis, the fault will not be that of this author who has taken upon himself the labour of his instruction. The list of surgeons who have performed this trivial operation of nephrophexy upon Dr. Suckling's cases makes painful reading.

A Treatise on Diagnostic Methods of Examination. By Prof. Dr H. Sahli, of Bern, Edited, with additions, by Francis P. Kinnicutt, M.D., Professor of Clinical Medicine, Columbia University, N.Y.; and Nath'l. Bowditch Potter, M.D., visiting physician to the City Hospital and to the French Hospital; and Consulting Physician to the Manhattan State Hospital, N.Y. Philadelphia and London: W. B. Saunders & Company, 1905. Octavo of 1008 pages, profusely illustrated. Cloth, $6.50 net; half morocco, $7.50 net. Canadian agents: J. A. Carveth & Co., Ltd., 434 Yonge St. Toronto.

This work is admirable: it is not easy to review, in any short space so large a book, and withal, so compact a book. The amount of information it contains in its thousand pages is so great that it gives the impression of having within its covers all that is known upon its subject. Without going so far we may at least say that its additions to the first edition of Sahli's work, which was published in German in 1894, appear to be quite complete. The most interesting of these is Dr. T. C. Janeway's upon the estimation of blood pressure, together with a description of the lately devised instruments. Edited and translated, with additions and corrections, it might seem that a book could get far away from its author's style and intention, but the editors have been conscientious in this matter, and the greatest part of the work comes straight from Professor Sahli; he speaks in nearly every paragraph from his personal experience, which has been a very wide one: subjects such as cystoscopy and x-ray work, he has not included, because as he modestly says, he does not feel competent to teach these subjects from his own experience.

To tell what is in the book would be a compilation of the index: urinary examination takes up more than a hundred pages, the examination of the nervous system nearly two hundred. This of itself is no test of the quality of the book; but testing it in many different directions, we have found that in every instance tried, the details are there, stated with precision and minuteness. In the case of cytodiagnosis, over which Prof. Sahli is by no means enthusiastic, the authors insert a note which seems to be a fair corrective, speaking from the standpoint of this continent. Such slight differences of opinion seem to us to enhance the value of the book to one who wishes a full statement of the case. Several pages upon ophthalmoscopy are delightfully concise, are well illustrated, and will prove most useful to the practicing physician.

The illustrations are apt and useful: a few of the photagraphs, which have been inserted by the editors, are labelled with the name of the

physician from whose service the patient is taken, and are not of very great value, but this is of no importance as a criticism upon so useful a book.

In fine, Sahli's Diagnostic Methods' excites our strong approbation. even enthusiasm, and we have no hesitation in recommending it as a book that will fulfil its aims to the utmost.

Messrs. W. B. Saunders' complete catalogue of their publications is a valuable record of activity in publishing medical books in America. New books are being added, and new editions issued with a rapidity that speaks well for the progressiveness of the house. A copy will be sent free upon request.

MESSRS. LEA BROTHERS & Co., announce for publication early this month a new work on Dietics by Robert F. Williams, M.A., M.D., Professor of Principles and Practice of Medicine in the Medical College of Virginia, Richmond.

Medical News.

NOTRE DAME HOSPITAL.

The annual meeting of the Notre Dame Hospital was held on December 12th, 1905, Dr. E. P. Lachapelle, occupied the chair, and Dr. Benoit acted as secretary. According to the report, 2,230 patients had been treated during the year, an increase of four over the preceding twelve months; each patient costing $1.13 per day, an increase of four cents over the cost last year. Of the 2,230 patients, there were 1,303 men, and 927 women; 2,124 Catholics, 106 Protestants. Of these there were 1,937 Canadian born, and 293 of other nationalities. Of the 2,230 persons treated, 1,871 left the hospital cured or better, 183 were incurable, and 165 died in the hospital. Out of this number 53 were in a dying condition when brought to the hospital. The physicians attending the different dispensaries gave 20,991 consultations during the year, divided as follows: Surgery, 6,585; medicine, 5,001; diseases of the eyes, 3,412; children's diseases, 1,574; skin diseases, 1,072; nervous diseases, 807; women's diseases, 790; dental cases, 193, while 1,557 urgent cases were treated by the house staff. There were given during the year 25,898 free prescriptions, and the ambulance calls were 1,245.

The financial report showed a deficit of $229.49, the receipts being $41,374.44, and the expenditure $41,603.93.

The amount of the contracts already given out for the new Notre Dame Hospital reaches to date $248,881, and the total cost is estimated at over $600,000.

Dr. James S. Trotter died at Waterford, November 11th, 1905.

Dr. B. H. Lemon, of Thorold, coroner for Lincoln and Welland, died October 28th, 1905, in the 74th year of his age.

Dr. John Kane, of Aultsville, met with a fatal accident by a runaway horse and died on 7th December in the Cornwall General Hospital.

A branch of the Association for the Prevention of Tuberculosis has been formed in Prnce Edward Island. Lieut.-Governor McKinnon is honorary president, and Justice Fitzgerald, president. The vice-presidents are: Queen's County, Mayor Kelly; King's, John McLean; Prince, Dr. Alexander Ross Alberton.

The Manitoba Medical Alumni Association held their annual meeting in Winnipeg on November 10th, to elect officers for the coming year. The following were chosen: President, Dr. Popham; vice-president, Dr. Bruce, Dominion City; secretary-treasurer, Dr. Vrooman; executive, Doctors Chestnut and Sharpe. During the course of the session it was decided to hold quarterly meetings, and to take an active part in the furnishing of the new medical college.

Work on the new Manitoba medical college is being rapidly pushed. It is expected that the building will be ready for occupation at the beginning of February.

Retrospect of Current Literature.

SURGERY.

QUINCKE: "The Diagnostic and Therapeutic Value of Lumbar Puncture." *Deut. Med. Woch.*, No. 46, 1905.

In the course of a long recapitulation of the advantages of the procedure, Quincke points out two or three things which may be added to the procedure as it is generally done in this country. He says it is essential that no puncture should be done without an instrument to measure the pressure in the spinal canal: by the use of a narrow graduated glass tube attached by rubber tubing to one of the arms on the canula the

pressure can be measured while the fluid is allowed to run out through the other. The regular mercury manometer is even preferable: normal pressure in the canal is 125 mm. of water. By reason of respiration and blood pressure it varies 10-30 mm. What we consider as high intraspinal pressure may be from 300 to 700 mm. Stated shortly, some of his directions are as follows: patient in left lateral position, with lumbar kyphosis: perforate in 2-5th lumbar spaces: immediate measurement of pressure: with normal pressure and for diagnosis, removes only 1-5 cc: draw off fluid slowly, always under control of pressure-measurement: final pressure not to be lower than 80-100 mm. for normal cases, not less than 120 mm. when the pressure is rapidly lowered, if the preliminary pressure is very high, lower to 40-60° of its first amount: in children it may be allowed to fall to 30-40 mm. Never aspirate the fluid: after withdrawal of fluid, let the patient remain in bed at least 24 hours.

VON LEUBE: "The International Tuberculosis Congress at Paris. *Deut. Med Woch.,* No. 46, 1905.

Professor Von Leube thus reports from the paper of von Behring, the procedure which has excited so much interest:

"The new principle consists in impregnating the living cells of the organism with substance which is obtained from the virus of tuberculosis and is called TC. This pre-exists in the bacillus, and has a syntiotic action in the body cells especially in those of lymphoid tissue. It becomes an integral part of the cells and is metamorphosed by them, when it is called TX. Upon the composition of TC. depends the protective reaction against tuberculosis, which is a cellular as opposed to a humoral antitoxic immunity. To isolate TC, v. Behring forces it from certain bacillary substances which hinder its therapeutic action; these are, a very toxic substance, called TV, soluble in water, another toxic substance, containing globulin, TG, soluble in neutral salt solution, and other non-toxic substances soluble in alcohol, ether and chloroform. What remains after the freeing of the bacilli from these substances, constitutes Behring's "Rest bacillus." This preserves the form and staining qualities of the tubercle bacillus, but can by suitable preparation be converted into an amorphous substance, which is absorbed by the lymphoid tissues of guinea-pigs rabbits, goats and other animals, and bestows upon the cells eosinophilic properties. Parallel with this metamporphosis, wrought by TC, develops the immunity of the organism. A specially important fact is that TC is not capable of reproduction but possesses the power to cause a Laennec's tubercle, which will not soften or become caseous: this form of tubercle is curable, in that it will disappear without leaving any trace

in the tissues. According to experiments on different animals, v. Behring believes that this substance can be used without danger, as a therapeutic measure. Its therapeutic qualities and its harmlessness must be further investigated and determined."

HOFFMANN, ERICH: "Spirochæte pallida in a macacus inoculated with syphilitic blood." *Berl. Klin. Woch.*, No. 46, 1905.

The experimenter took blood from a man who had syphilis, untreated, for six months, and rubbed it into scarified areas on the eyelids of the ape. Three weeks later a papule developed, from which scrapings gave numerous typical examples of spirochæte pallida.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY, H. A. LAFLEUR AND W. F. HAMILTON.

HENRY G. SPOONER. "Non-Gonorrhœal Urethritis." *Medical Record*, November 11th, 1905.

Henry G. Spooner sketches the history of the study of urethritis, which was formerly confused with syphilis, and later was thought to be invariably due to the presence of the gonococcus. Now it is recognized, he says, that other micro-organisms may give rise to urethritis, as has been shown by the experiments of Bockhart, Legrain, and others who inocculated the urethra with various pyogenic organisms and obtained positive results. Such cases are not as rare as is usually supposed in this country, and they require consideration at the hands of clinicians. From the clinical point of view, he admits, differential diagnosis is impossible, but as a rule in non-gonorrhœal urethritis the incubation period and the course are shorter and less painful than in the specific form.

E. PALIER. "The Stomach in Pulmonary Tuberculosis and the effect of Gastric Juice on the Bacillus Tuberculosis." *Medical Record*, November 11th, 1905.

E. Palier has studied the gastric conditions present in a number of cases of pulmonary tuberculosis, most of the patients being men between the ages of 22 and 45. He describes several of these, and says that his observations lead him to believe that in about 60 per cent. of the

cases of incipient consumption there is hyperchlorhydria, in 20 per cent. the stomach is about normal, and in about 20 per cent. there is hypochlorhydria. The effect of gastric juice on the tubercle bacilli in the sputum swallowed was also investigated. It appears that the normal gastric juice is bacteriolytic to the tubercle bacilli, but *in vitro* the process is very slow. The author believes that in the stomach it is much more active, so that ordinarily no bacilli can pass the normal stomach and reach the intestine in virulent condition. In hypochlorhydria they undoubtedly can, and also under any conditions on repeated ingestion some may find opportunities to slip through and cause disease. The frequency of hypochlorhydria with hyersecretion in pulmonary tuberculosis, the author believes, explains the frequency of gastric ulcer in this disease.

ARPAD G. GERSTER. "The System of American Hospital Economy." *Medical Record,* December 2nd, 1905.

Arpad G. Gerster, in discussing this subject, first compares the daily cost per patient in different hospitals in this country and in Europe, the result showing that in America the outlay is very much greater. These facts serve as arguments in favour of the view that in order to meet successfully the conditions now existing when the large hospitals usually show an annual deficit, retrenchments is the proper remedy, and not an appeal for general liberality on the part of the comparatively few philanthropists, who furnish most of the funds for the hospitals. In analyzing the conditions which underlie the extravagance and waste in hospital management in this country, the author emphasizes the necessity for more active participation in the executive control by the members of the medical staff. The plans of organization of the great hospitals of Hamburg, Berlin, Vienna, and Budapest, are described in detail, the essential features being that the position of the lay superintendent of American hospitals is occupied by one or more salaried medical directors, the attending staff is very limited, so that the service is a permanent one with salaried visiting physicians and surgeons, and the house staff also is composed of paid assistants, whose positions are permanent. In this way all of those concerned are able to give the necessary time to details of economical management, and also acquire the experience necessary to carry them out with effect. The present plan of conducting hospitals here resembles that in use in medieval Europe, and the author, predicts that sooner or later a system similar to that now employed in Europe must be adopted. While opposition

to reform in this direction is to be expected, restriction in the number of those who attend at hospitals is essential to economical improvement and is urgently required also to effect a betterment in the care of the individual patient.

W. J. Butler. "Typhoid Fever in Children." *Journal A. M. A.*, November 11th, 1905.

After reviewing the literature, W. J. Butler, Chicago, gives a clinical analysis of 210 cases of typhoid fever in children, 106 boys and 104 girls. The duration of symptoms, before coming under observation, was, on the average, seven days. In 107 in whom the conditions of the bowels was ascertainable, 69 had diarrhœœa, 31 constipation, and in 7 the bowel movements were only 29 of the 210. After coming under observation, anorexia and furred tongue were the rule. Vomiting occurred in 28 cases, in 13 of which it had been present during the onset. In many cases it seemed to precede more serious symptoms of complications. In 184 patients accurately noted as to this point, constipation existed in 100 and diarrhœa in 84. Tympany of varying degree was usually present after the first week, and in some cases was an annoying symptom extending into convalescence. The spleen was palpable in 134 out of 148 cases examined. Roseola was found in 115 of the 210 cases, seldom before the sixth day of the disease. It was usually absent in the mild and abortive cases. Epistaxis occurred in 12 cases during the course of the disease, in one case several times and with repeated bowel hæmorrhages, terminating fatally. The average duration of temperature in all cases was 17.3 days. The disproportion between pulse rate and temperature first noticed by Roger in adults, holds good for later childhood, but in very young children they run more or less parallel. A dicrotic pulse was seldom found. Blood counts were made in many cases, chiefly with reference to the leucocytes. The weekly averages were as follows: First week, 6,571; second week, 7,200; third week, 6,740. Some interesting variations are recorded. The Widal test was made in 96 cases, with 86 positive results. Butler does not consider the negative tests as of much significance, as only one, or at least two, trials were made. In 40 patients the reaction was positive within the first four days after coming under observation. In some it was considerably delayed. Nervous symptoms, headache, drowsiness and delirium were rather frequent and there was generally some dullness or apathy. Ehrlich's urinary test was made in a number of cases with

usually positive results. Butler does not consider it, however, as of much diagnostic value. Relapses seem to be more common in children than in adults, and in girls than in boys. They occurred in 31 of the 210 cases, in five cases fatal. The mortality, as usual lower in children, was eleven, or 5.2 per cent. Among the more interesting complications noted were ocular paresis in the first week of the disease in one case, several cases of meningeal involvement, and two cases of neuritis occurring after relapse. In some of the severe cases, evidences of myocardial involvement were present. Intestinal hœmorrhage occurred in 13 patients, of whom four died, one from perforation occurring after a hœmorrhage. Details of the fatal cases are given.. The treatment was symptomatic and hygienic. Butler, from his experience in these cases, is inclined to think that the enlargement of the diet of typhoid patients, advised by some, is inadvisable so far as children are concerned. Milk, diluted for infants and very young children, with albumin water, and the usual cereal gruel diluents, such as barley water and rice water as drinks, he thinks, are best for this class of cases. Care in diet during the early part of convalescence is as important as during the height of the attack. Hydrotherapy was also employed, tubbing in practically all cases. The temperature was the usual guide to its employment, also the nervous symptoms which it seemed to benefit. In very severe intoxication, high enemas of salt solution were used with advantage in increasing elimination, especially renal. Intestinal antiseptics, salol, acetozone, etc., did not seem to be of any particular advantage. Two of the four patients with perforation were operated on, but all died.

OBSTETRICS

UNDER THE CHARGE OF J. C. CAMERON AND D. J. EVANS

Toxæmia of Pregnancy in Relation to Hyperemesis Gravidarum and Eclampsia.

By David James Evans, M.D., Lecturer in Obstetrics, McGill University.

In the Journal of Obstetrics and Gynæcology of the British Empire for April, 1905, Thomas G. Stevens has reviewed some of the recent literature on hyperemesis geovidæum. The various theories advanced he groups into four classes as follows:—

1. That it is a reflex act due to some lesion of the pregnant uterus or of the pelvic organs. Graily Hewitt in 1877 advanced this view.

Read at the McGill Medical Reporting Society, November 13th, 1905.

claiming that retroflexions and other like conditions by reflex irritation brought about vomiting.

2. That it is a functional neurosis of the central nervous system. Kaultenbach claimed that the vomiting was hysterical, and has been strongly supported by Græfe, who dwells on its frequent occurrence in primiparæ, and that suggestion so frequently relieves the condition.

3. That it is a reflex stomach neurosis.

The upholders of this theory claim the initial cause is irritation of the nerve endings in the uterus or pelvic organs quite independent of any actual lesion.

4. That it results from a form of auto-intoxication from the alimentary tract, the ovum itself or from bacterial infection.

Dirmoser claims that the poisons are largely generated in the intestinal tract as a result of impulses from the growing uterus travelling by the vogus and sympathetic nerves to the stomach and intestines. These impulses result in an increased flow of mucous which interferes with the normal reactions. He asserts that he has been able to demonstrate the presence of such poisons in the intestinal tract of cases of hyperemesis, and places great importance on his findings in the analyses of the urine of such cases. The deletrious action of these toxins are manifested chiefly in the liver and kidneys.

Behm believes that the toxins are generated in the growing ovum, chiefly in the syncytium. The disintegration of the villi in the early months of pregnancy and the subsequent absorption of their debris into the blood stream is the source of the toxic substances. This process is usually complete by the middle of pregnancy, hence the disappearance of the troublesome symptoms about this time. Veit and his school support the theories of Behm.

Baisch points out that hyperemesis is clearly connected with the implanting of the ovum in the uterine wall, seeing that it most commonly occurs in that period of pregnancy connected with placental development.

Edward P. Davis ("Toxæmia of Pregnancy," *Am. Jour. Med. Science*, February, 1905) thinks that various forms of toxæmia may be noted during pregnancy. He distinguishes between hepatic, intestinal, thyroid, and renal intoxication and believes that syncitiolysin, a placental ferment, has an important role in the causation of eclampsia. He quotes the work of Bell (*Jour. of Obste. and Gyn.*, of Brit. Emp., Sept. '02), who found that blood serum from fatal cases of eclampsia, taken before death, proved toxic to animals, causing convulsions and death,

with the development of characteristic lesions to follow its intra venous injection. Serum of two nephritis cases did not produce any effect when injected into animals.

James Ewing ("The Pathological Anatomy and Pathogenesis of the Toxæmia of Pregnancy," *Am. Jour. Obstet.*, February, 1905) looks upon the toxæmia of pregnancy as being the result of functional disturbance of the liver, usually, but not necessarily attended with severe anatomical lesions of this organ, and secondarily with functional disturbance and anatomical lesions of the kidneys and other organs.

He reports three fatal cases of eclampsia, all with hepatic lesions of various intensity. In the first case a hæmorrhagic hepatitis was present. The liver was small, soft, and showed minute hæmorrhagic foci. Microscopically there was a uniform, intense, granular, hydropic and fatty degeneration of the protoplasm. These alterations he considers pathognomonic of eclampsia and states that they are to be found in 95 per cent. of fatal cases.

The second case, four and a half months pregnant, showed acute yellow atrophy of the liver. No albumin had been found in the urine and no casts. The liver was reduced in size and showed hydropic and fatty degeneration of the inner two-thirds of the lobules, while the periphery showed slight granular and fatty degeneration.

(This case Williams would class as one of hyperemesis gravidovum, as the liver condition corresponds exactly to that he has found present in his cases.)

The third case, six and a half months pregnant, with albumin in the urine, was found to show in the liver no striking gross change, but the cells exhibited a diffuse fatty, and granular degeneration with foci of intense degeneration and of partial necrosis.

Three cases of hyperemesis are then recorded, all with marked hepatic lesions. One showed typical yellow atrophy, while in the others the livers were not reduced in size. All exhibited hydropic and granular degeneration of the inner portions of the lobules.

Ewing concludes that a failure of the oxidizing capacity on the part of the liver is responsible for the clinical manifestation of the toxæmia of pregnancy. For this reason the protied derivatives chiefly amido-acids and ammonia, are not converted into urea, but circulate free in the blood in poisonous form, and are to some extent excreted by the kidneys.

The exact identity of the poisons has not been determined for they are not fully accessible to present chemical and biological methods. The

complex nature of these poisons renders less obscure the fact that the clinical manifestations of the toxæmia of pregnancy vary from mild vomiting to acute yellow atrophy.

Ewing considers the urinary changes very important for diagnosis and prognosis. Instead of urea, uric acid, ammonia, leucin and tyrosin, and other unoxidized proteid radicles appear in the urine, and instead of sulphates there are unoxidized sulphur compounds. The examination for various unoxidized proteid derivitives will prove a fairly reliable indication of the seriousness of the case.

J. Whitridge Williams ("On the Pernicious Vomiting of Pregnancy," *Centralblatt fur Gyn.*, No. 30, 1905) divides the causes of pernicious vomiting of pregnancy into three groups, the reflex, the neurotic, and the toxæamic.

In the first group the vomiting may be due to the presence of abnormalities of the generative tract or ovum, which existed prior to the onset of pregnancy, or are coincident with it.

Kaltenbach's views as to the neurotic origin of vomiting he considers far too extreme, but he believes that many cases are purely of this type. Neurotic vomiting should be diagnosed only after excluding organic lesions, and demonstrating the absence of toxæmia, by a most thorough examination of the urine.

The conception of the toxæmic nature of vomiting of pregnancy has steadily been gaining ground.

Williams mentions as being among the most important of the theories advanced concerning the nature and origin of the toxic material:—

(*a*) Secretion of the corpus leuterum.

(*b*) Secretion of the ovary.

(*c*) Absorbtion from the intestines.

(*d*) Hepåto-toxæmia (Pinard and Bouffe de St-Blaise).

(*e*) Invasion of the maternal organism by fœtal elements, the syncitio-toxin theory of Veit, Behm and others.

(*f*) Its identity with eclampsia on the one hand and acute yellow atrophy on the other. (Champetiere de Ribes, Bouffe de St-Blaise, Stone, Ewing and Edgar.)

Matthews Duncan in 1879 suggested the relation between acute yellow atrophy and pernicious vomiting. Stone in 1903 published a case, the liver of which has been examined by Williams, and found to present changes identical with those in his own case.

These consist in the degeneration and necrosis of the central portion of the liver lobule, and the fatty degeneration and necrosis of secretory

portion of the kidneys, and can only be explained by the assumption that some powerfully toxic substance is circulating in the blood.

Williams has found five cases reported in literature in which acute yellow atrophy was found at autopsy upon patients dying of vomiting of pregnancy, as well as five others in which marked fatty degeneration of the liver was noted. In many of these the condition of the liver was considered accidental and the vomiting referred to something else.

He considers that at present we are absolutely ignorant of the exact nature of the toxic substance or substances concerned, though it is natural to suppose they are metabolic in origin and are directly concerned with pregnancy.

All that can be stated definitely is that in some cases of pernicious vomiting we have to deal with a toxæmia, which gives rise to serious lesions in the liver and later in the kidneys, and that the latter are secondary in character, as is indicated by the fact that the urine does not contain albumin until shortly before death.

He points out that in these cases there is a marked increase in the percentage of nitrogen put out as ammonia, compared with the total nitrogen content of the urine, so that the former, instead of being three to five per cent. as is normal, may rise to 16, 32, or even 46 per cent., as in several of his cases.

This increased ammonia coefficient may be due to destruction of the liver preventing the formation of urea and the escape of the less oxidized forms as ammonia; or, it may be due to an attempt to neutralize an excessive production of acid—a so-called acid-intoxication. He considers the latter as the most likely explanation.

Williams recommends that in cases of vomiting when the ammonia coefficient is high, abortion is indicated as offering the only hope of checking the toxæmia and saving the life of the patient.

His experience leads him to consider that an ammonia coefficient of 10 per cent. represents the danger signal, and that as soon as it is reached interference is demanded.

In the reflex and neurotic forms of vomiting the ammonia output remains normal, hence it is not only a means of diagnosis but a valuable guide to treatment.

Williams does not agree with Stone and Ewing that eclampsia and acute yellow atrophy are manifestations of one and the same toxæmia. He considers that there are at least two toxæmias of pregnancy if not more.

In both eclampsia and pernicious vomiting lesions occur in the liver, but they differ in character. In eclampsia the lesions begin in the

portal spaces and invade the lobule from the periphery toward the centre; while in vomiting of pregnancy the necrosis begins in the centre of the lobule, spreads peripherally, and never involves the portal spaces. In this view he is supported by Schmorl.

In eclampsia and pre-eclamptic toxæmia there are marked signs of involvement of the kidneys and general circulation, as manifested by scanty urine in proportion to the intake of fluid, the early appearance of pronounced albuminuria, the presence of casts, and œdema.

In vomiting of pregnancy on the other hand the urinary output is diminished only as the intake of fluids is interfered with, and albumin and casts are present only in the last days, or hours, of life, while œdema is absent.

The chemical examination of the urine shows an equally marked contrast between the two conditions. In eclampsia the total amount of nitrogen is greatly diminished, while the ammonia coefficient remains practically normal. In vomiting of pregnancy, on the contrary, in spite of the scanty amount of urine, the total amount of nitrogen remains approximately normal, while the ammonia coefficient is wonderfully elevated. A high ammonia output is a favourable prognostic sign in eclampsia, and a very ominous one in vomiting of pregnancy.

Ellice McDonald ("Toxæmia of Pregnancy with Vomiting," *Am. Jour. of Obstet.*, September, 1905) in a very excellent article reviews extensively the literature, dwelling upon the characeristic liver changes. He reports a case, which was attended with neuritis, jaundice, vomiting, etc. Sepsis followed incomplete curettage. A diagnosis was made of toxæmia of pregnancy with vomiting. Acute yellow atrophy of the liver. Metral stenosin, mild bronchitis, puerpural neuritis, retained secundines; and the patient recovered. The diagnosis of acute yellow atrophy of the liver may be questioned as it is based only on the presence of jaundice, the fact that there was no enlargement of the liver, and that the urine contained albumin, casts and leucin and tyeosin.

He quotes Gueniot's figures as showing that termination of the pregnancy has a direct effect on the mortality. In cases without abortion the mortality was 92 per cent.; with spontaneous abortion, 35 per cent., and with induced abortion 52.3 per cent. Hirst's figures show that in cases treated by abortion the mortality was 25 per cent.; without abortion 49.1 per cent. Thus, it will be seen that toxæmia of pregnancy with vomiting is a disease which has a mortality even higher than that of eclamptic toxæmia, of which we may take Meyer-Wirg figures (27.3 per cent.) as a very fair estimate."

He closes his paper with a discussion of the question, "Do experi-

mental liver necroses aid in explaining the liver lesions of toxæmia of pregnancy?"

McDonald concludes from a careful study of the work of experimenters, that:—The similarity of these experimental liver lesions to those of the toxæmia of pregnancy with vomiting and eclamptic toxæmia, is evident. The severity and extent of the lesion in experimental necrosis depends on the amount of the dose. The periphery of the lobule is the seat of changes in experimental necrosis with moderate doses, while, with large doses, the middle and central portions are also attached.

Review of the experimental work demonstrates that it is evident that hemagglutinins, by the production of agglutinative red blood corpuscle thrombi, may cause experimental necrosis. That the same mechanism holds for the liver lesions of eclamptic toxæmia cannot readily be proven. The observations of Viet and others, however, concerning the presence of hemagglutinins in the mother's blood are suggestive.

He considers that there is evidence that, in the toxæmia of pregnancy, an agglutinative substance occurs in the blood and that this, by causing the clumping of the red cells, leads to the occurrence of liver necrosis. It is possible that there may be, in addition hemolytic and other toxic substances. There is no proof at present that such a hemagglutinin is produced by the placental cells.

A. Dienst ("Das Eklampsiegift," *Zentralb., für Gyn.*, No. 12, 1905) elaborates a new theory as to the origin of the toxæmia. Injecting milk into the umbilical vessels Dienst noticed that the fluid escaped from large vessels on the maternal surface. Testing a large number of placentæ he noted that while the milk escaped in a considerable number of cases, it did so much more freely in the case of eclamptic placentæ. Testing this point when the placenta remained in situ, by means of injections of methylene blue, he found that in certain cases the urine was stained blue. He concludes that there must be in such cases a free communication between the fœtal and maternal circulations. He cites the work of Schmorl, Pels-Leusden and others who report finding actual chorionic villi departed into the maternal circulation.

Then Dienst records a very extensive series of experiments on the agglutination and hæmolytic reactions between maternal and fœtal blood. The maternal blood was obtained from the retroplacental hæmorrhage, or from venesection during puerpurium, the latter being mainly cases of albuminuria and eclampsia. The blood of 118 mothers and their offspring was tested. In 24 cases the maternal blood caused agglutination and disintegration of the fœtal red corpuscles. In these

24 cases the placenta were impermeable in 15 cases, all of which remained healthy. In these 15 cases the urine was free of albumin. In the remaining 9 cases seven were eclamptic and two had albuminuria. From these observations Dienst concludes that albuminuria and eclampsia take place when the maternal and fœtal blood behave, the one to the other, as does a mixture made from the blood of two distinct species, and when a free communication exists between the fœtal and maternal circulations. Thus a freely circulating mixture of two heterogenous samples of blood gives rise to eclampsia and albuminuria gravidœum.

The action of the maternal agglutinative substance brings about the agglutination and distinction of the fœtal blood cells. These clumped cells are the cause of plugging of the fine capillaries in the liver and hence the changes which occur in this organ. He concludes his paper with a detailed explanation of the various morbid conditions found in the organs and blood of eclamptics according to the views he elaborates in his very interesting paper.

Labhardt ("Bemarkengen zu den biologischen Theorien des Eklampsie," *Zeitsch. für Geburt.*, Bd. 4, iv., 12) opposes the biological view as to the origin of the toxœmia of pregnancy. He combats the views of Viet, Ascoli, Weichhardt and others, chiefly from the clinical standpoint, making a very strong argument. He concludes that the biological hypothesis has not advanced our knowledge of the origin of eclampsia, that placenta and child are not "foreign" to the mother and the resorption of their tissues leads to no damage of the kidneys, nor of any other organ, nor does it give rise to eclampsia.

With regard to the experimental studies of Weichhardt, Ascoli and others, he considers that where such delicate chemical reactions are studied, the identification of results in such a heterogenous material is absolutely impossible in the present state of our knowledge.

A very interesting series of cases have been reported by Brauer (Munch. wed Wochnsche 26, '05, Oettinger, Cathala and Trastour, and Bar *Bulletin de la Soc. d'Obstet. de Paris*, No. 4, '04) illustrating the selective action of the toxic substances in the pregnant condition. The cases include various forms of neuritis and paralysis. In Brauer's case paretic symptoms were present in two consecutive pregnancies. The symptoms began as early as the first month and gradually increased till both sides of the body were completely paralyzed. Dyspnœa was present in the last weeks and there was partial aphonia, but no speech or eye disturbances. There was no albumin in the urine, though œdema of legs and arms developed in the last weeks of pregnancy. Following

delivery complete recovery took place. He refers to the case as one of toxic myelitis.

In Oettinger's case there was a condition of "polyneuritis," chiefly of the large nerve trunks, with some slight participation of the facial nerve. The general condition of the patient was good, there was no visceral lesion, no albuminurin and no elevation of temperature. Recovery followed delivery of twins.

He points out the relation of the cases to pernicious vomiting and considers the cause to be the presence of some toxic substance due to the pregnancy.

In the case reported by Cathala and Trastour, besides well marked paralysis there were mental symptoms present. The patient went to term and recovery followed delivery.

Bar reports a case of atrophy of the optic nerve associated with pregnancy. In the middle of the first pregnancy his patient complained of dimness of vision in the right eye. Panas examined the case and reported some papillary œdema, but no retinitis. There was no albuminuria. The condition improved slightly after delivery. In the second pregnancy the same symptoms came on in the fourth month, and progressed rapidly till the sight of the eye was completely destroyed. Panas diagnosed complete atrophy of the optic nerve, and blindness was permanent. Bar concludes that these cases of mononeuritis belong to the same series as the cases reported by Ottinger, etc., and that the condition may be present in one nerve only or that several may be attacked.

In some cases he believes he has seen the nerve of taste affected, and thinks that loss of hearing sometimes associated with pregnancy may be due to a similar condition.

Discussing the toxic nature of the pernicious vomiting of pregnancy he considers that the theory of intoxication is without doubt applicable to other troubles associated with pregnancy less studied, more elusive, and of a nature scarcely known.

At the annual meeting of the Post-Graduate Medical Society, of Toronto, held on December 14th, at the Toronto General Hospital, the officers were elected as follows: Honorary president, J. N. E. Brown, M.D.; president, E. C. Burson, M.D.; first vice-president, L. Killoran, M.D.; second vice-president, R. G. Snyder, M.D.; secretary-treasurer, H. Spohn, M.D.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The third regular meeting of the Society was held November 3rd, Dr. F. G. Finley, Vice-President, in the Chair.

CONGENITAL SYPHILIS.

H. B. Cushing: This little boy is shown to the Society to-night on account of two or three unusual features in his case. The first that can be learned of him was in November, 1902, when, at the age of 5 years, he was admitted with his mother to the Montreal General Hospital. The mother died within a week of uræmia. At the time of her death she had several tertiary syphilitic ulcers and bone lesions, which she said had been present at intervals for six years. The boy was suffering from acute dacryo-cystitis, suppurative otitis media, and perforating ulcers of the hard palate. The whole condition was diagnosed as due to congenital syphilis with secondary infections. From this time he was kept under treatment with grey powder for two years. His condition rapidly improved and he remained practically well. Treatment was stopped in the fall of 1904, and since then he has steadily failed, until he came under notice again in August, 1905, for emaciation and continued fever.

The patient was then 8½ years old, but was stunted and undeveloped, so that his various measurements were those of a child of 5 years. He was much emaciated, weighing only 27 lbs. His head was large in proportion to his body, the greatest circumference being 21 inches. His forehead was prominent and his cranium asymmetrical. He had an upturned nose with rather sunken bridge, his jaw was prognathous, and his mouth was kept partly open. His teeth (2nd dentition) were irregular and rough, the upper incisors being separated and peg-shaped, but not typical Hutchison teeth. For the rest, he had a small chest with poor expansion, a large protuberant abdomen, he had no deformities of the extremities. These peculiarities may all be seen in the patient this evening, and while more or less characteristic of syphilis might still be largely accounted for as due to rickets. On further examination his heart and lungs showed no abnormality. His liver and spleen were both greatly enlarged, the liver descending 4 inches below the costal margin, hard, and with a smooth surface; the spleen was palpable two inches below the edge of the ribs on the left side and was also hard and rounded. There was no evidence of fluid in the abdomen. There was slight generalized enlargement of the lymphatic glands. His urine on repeated examinations was increased in amount, always pale

with a spec. grav. of 1001-1004; it contained 1 to 3 grammes of albumen to the litre, and on microscopical examination showed a very few granular casts. A blood count showed moderate secondary anæmia with no leucocytosis. He had an irregular fever, the temperature only occasionally dropping to normal, but usually ranging from 99° to 103°. This pyrexia lasted for at least seven weeks.

When his family history was obtained and a diagnosis thus established, a course of mercurial inunctions was instituted followed by potassium iodide internally. Under this treatment there was an immediate improvement. His temperature remained normal, his appetite returned, he gained rapidly in weight and strength, the liver and spleen diminished in size, although they are both still palpable, and, lastly, there was a gradual change in the urine, the albumen diminished to a mere trace, and the sp. gr. rose to 1012-1014, occasional hyaline casts are still to be found.

The special points of interest in connexion with the case were:—*first,* the return of symptoms after two years' steady treatments with mercury, illustrating the tendency of congenital syphilis to become active at the time of second dentition. *Secondly,* the possibility of amyloid disease. The urine showed the characteristics of this disorder and the large symmetrical enlargement of liver and spleen were suggestive. On the other hand, amyloid disease is regarded by most authorities as being very rare with congenital lues, and the possibility of diffuse syphilitic hepatitis and nephritis must be considered. The improvements of the urine under active anti-syphilitic treatment is noteworthy. *Thirdly,* the irregular pyrexia; no other cause could be found for this than the syphilis, and it disappeared almost immediately on treatment. The case seems to come under the same category as those recently described in the Montreal Medical Journal, illustrating the occurrence of fever with tertiary syphilis.

G. G. Campbell, M.D. The question of prognosis seems to me to depend very much upon the early treatment. If the patient is treated systematically and carefully during the secondary stage there must be a large number of cases where there is never any appearance of tertiaries, but once the tertiaries have appeared one can never guard against recurrences. This boy apparently comes under treatment in the tertiary stage and thus the prognosis as to after life is not very good; but the cases of congenital syphilis treated in early infancy are probably more successful, just as in those cases of the acquired type that are treated early.

F. J. Shepherd, M.D. This is an interesting case, and Dr. Cushing

is to be congratulated on bringing it before us this evening. On looking closely at the child one can see that it is a syphilitic case, and some of these cases are most difficult to cure. I should like to ask Dr. Cushing what antisyphilitic treatment he used, as there are a great many different ideas of just what is best in these cases.

H. B. CUSHING, M.D. The only point to mention is as regards the treatment. While in the Orphan's Home he was given doses of grey powder for about a year, and showed some improvement under this. The last treatment which he has received under me was a course of inunctions of mercury, and doses of potassium iodide, which he is still taking, and he has, as I have said, showed a very considerable improvement.

DENTIGEROUS CYST.

C. C. GURD, M.D. showed a patient upon whom he had operated for dentigerous cyst.

F. J. SHEPHERD, M.D. These are comparatively rare cases; I have had two, and both have been in connexion with the wisdom teeth; one was diagnosed as cancer of the jaw, and sent to me for operation as such.

F. R. ENGLAND, M.D. A very interesting and important point when considering the diagnosis of this case was the absence of the left canine tooth.

A. E. GARROW, M.D. I had a case of dentigerous cyst also in the upper jaw involving the bicuspid tooth, which was small in size, and lay in a small cavity lined with a sort of velvety membrane.

PATHOLOGICAL SPECIMENS.

J. G. ADAMI, M.D., showed the following specimens: (1) Red infarcts of the liver; (2) Obliterating inflammation of hepatic veins.

A. E. GARROW, M.D. As to the condition found on operation in the case of obliterating inflammation of the hepatic veins, what struck one was the large quantity of clear, serous looking fluid. This was rapidly emptied by siphonage, and both the visceral and parietal layers of the peritoneum were carefully inspected. There was no inflammation whatever, even of the mildest grades of chronic peritonitis; not a single adhesion; no enlarged mesenteric glands; liver apparently normal, edge sharp; and the only unusual condition found was the enlarged spleen. We thought of a possible obstruction; but, on examining the vessels, no tortuosity, nor varix nor dilatation of any kind was noted. It seemed to be a purely dropsical condition, without, as we thought, any apparent obstruction; no evidence of any portal obstruction. The vessel was quite large and could be traced up to its fissure in the liver.

The fluid was collected at the time of operation, and showed a low specific gravity, 1004. Some guinea pigs inoculated by Dr. Keenan showed negative results for tuberculosis.

INFLAMMATION OF UTERINE PASSAGES.

W. W. Chipman, M.D. read a paper upon some clinical considerations in respect of inflammation of the uterine passages.

A. Lapthorn Smith, M.D. A point of interest mentioned in the paper is the fact that the tubes and ovaries, as well as the uterus and vagina are bilateral organs and this I think is not generally realized by general practitioners who often speak of gonorrhœal salpingitis of the left side when, in fact, there is no such condition; it is bilateral, only one side is more than the other. Dr. Chipman has done well to call attention to the colon bacillus as a factor in the causation of pelvic disease. I feel convinced that constipation in which there is an enormous amount of colon bacilli has a great deal to do with pelvic organs. And this also has direct importance on the difficulty of the diagnosis between a chronic appendicitis and chronic salpingitis, as the doctor has so clearly brought before us. We often see the two organs so densely adherent to each other that even when lifted out and detached we are not able always to say in which of these two the disease began. Many cases have been published which show that a diseased appendix has set up a salpingitis and that a salpingitis has set up appendicitis. This is a very important matter, as immediate operation is the worst thing to do in acute salpingitis, while in acute appendicitis it is absolutely called for. Operation on pus tubes before the acute stage is over is very dangerous. With regard to external applications the ice bag seems more suited for the purpose of checking microbe fermentation than poultices, which latter is now rarely used. I do think that if there are any cases in which morphia or opium is justifiable it is in these cases, as it is a matter of life and death to have the tubes walled off by adhesions. With regard to the quantity of water for douches this, I think, is quite an important matter, eight quarts is the very least that is necessary for a satisfactory douche, and even that should be given very slowly so as to last for a quarter of an hour.

I am so little anxious to operate on these cases of gonorrhœal salpingitis that I have several hundrd patients at my office and clinics who enjoy fairly good health on condition that they come for treatment a few times every year. They are told that an operation would give a permanent cure, but they are not urged to have it. Of their own accord, however, they generally ask for the operation when the attacks

of pain require almost constant treatment. I find iodine to the vaginal vault much more effective than on the skin. Electricity has been mentioned, but as Apostoli first pointed out intra uterine galvanism is not well borne in these cases. Fine wire faradism is very soothing in conjunction with iodine and boroglyceride tampons. I agree with the reader of the paper when he says that cases of gonorrhœal salpingitis are not good cases for conservative gynæcology. It is better to leave them alone than to take out one tube and ovary and to leave the other. I have been induced to do this in a dozen cases against my judgment, and they have proved very unsatisfactory to all concerned. I have also had to do a second operation for removal of the remaining ovary in about ten cases where it was left in at the first operation by the operators.

A. E. Garrow, M.D. Only recently in a case which I had under observation, where it was well known that a chronic infection of the pelvis from this condition existed, there was also associated an acute appendix inflammation. In discussing the condition with Dr. Chipman he expressed the opinion that the symptoms then present, and probably present on a previous attack two weeks before, were probably due to a recrudescence of the pelvic inflammation. I felt positive that the patient had acute appendicitis, and advised removal. Dr. Chipman took charge of the case, and the appendix, macroscopically at least, showed some little evidence of disease in addition to the other condition. On more than one occasion I have operated in acute appendicitis with pus formation, a catarrhal process and distended appendix; in which an examination of the appendages revealed undoubted gonorrhœal inflammation and that apparently the case had run a normal course afterwards. It is extremely interesting to know just how to exclude such cases in which the two conditions co-exist. It is true that an inspection of the lower mucous passages will assist very materially in confirming the diagnosis of gonorrhœal pelvic inflammation, nevertheless, in the presence of typical abdominal signs and symptons one is justified in diagnosing appendicitis. Another point is the distribution of the infection from one side of the pelvis to the other. If (as I understood Dr. Chipman to say) infection be carried by the lymph stream through one Fallopian tube to the other and thence to the pelvis, why does the ordinary staphylococcus and streptococcus infections not spread as readily?

A third question was the type of inflammation most frequently met with in these cases, either in the acute recurrent attacks or in the chronic cases. It is evident that pus formation is not very common, that the pathological condition is evidently of the same type as we

find in other serous surface, namely, sero-fibrinous and fibrinous. If so, why is there any special danger in dealing with such cases provided drainage is superadded? Experience in general surgery is most satisfactory when such joints are early opened, particularly when they show evidence of a spreading infection to the surrounding structures. Nothing so quickly arrests the process as opening the joint on two sides, and draining it for two or three days. I have had several of these cases of very acute infection in the knee, which were promptly opened and drained, followed by exceedingly useful joints.

Wesley Mills, M.D. Dr. Chipman has not only made his subject clear and interresting, but has given such an example of choice English expressed with artistic ability, that we all owe a special debt of gratitude to him.

F. R. England, M.D. I should like to emphasize the importance of the differential diagnosis in these cases; we have all experienced the difficulty in differentiating between acute gonorrhœal pelvic peritonitis and peritonitis due to appendicitis. A case was recently admitted to the Western Hospital under my care, as a case of acute appendicitis demanding immediate operation. The patient had been ill four days, all the symptoms were very pronounced, temperature high, prolonged and distressing vomiting, rigidity of the abdomen, and yet there was something about the general appearance of the patient which caused me to doubt the diagnosis; she did not seem ill enough considering the severity of the symptoms for a case of appendicitis of four days duration, and the possibility of a gonorrhœal peritonitis was entertained. Cultures taken were negative but the clinical history was suspicious and I was satisfied that the case was one of gonorrhœal peritonitis. All the symptoms subsided in a few days without operation, and the patient was soon convalescent. We all know that such cases are frequently operated upon. I have myself operated in at least two such cases, recovery followed in both cases, and possibly the condition may have been somewhat benefited by the operation. In these early cases of gonorrhœal infection I think one would hardly expect to find free pus in the peritoneal cavity. In old pus tube cases there is probably generally present a mixed infection where pyogenic organisms are present as well as the gonococcus. I would like to ask Dr. Chipman whether primary tuberculour salpingitis is commonly met with and if it is thought to be a frequent cause of general tuberculous peritonitis.

The fifth regular meeting of the Society was held Friday evening, December 1st, 1905, Dr. F. R. England in the Chair.

PYLORECTOMY FOR GASTRIC CANCER.

W. G. Reilly, M.D., F. R. England, M.D., and John McCrae, M.D., showed a living case on whom this operation had been performed successfully.

F. J. Shepherd, M.D. I should like to ask what was the condition of the glands in connexion with the stomach, and if they were examined microscopically.

James Bell, M.D. I think Dr. England is to be congratulated on the success of this operation. Those who do many pylorectomies have many failures. What strikes me about this case is the long period in which the symptoms were present, viz.: three years. It seems to me hardly possible that cancer should have been present all that time. Rather there seems to have been a period of dyspepsia, then probably gastric ulcer and cicatrical pyloric stenosis before any malignant condition developed.

F. R. England, M.D. With regard to the glands which were palpable, they were removed and set aside for examination. Both the greater omentum and lesser omentum were carefully examined and all glands that were palpable were removed; they were not large, not larger than butter beans. Unfortunately, no examination seems to have been made of the glands removed. I would like to have had some discussion on the experience of others in placing a wick of gauze behind the site of anastomosis. I was led, by this case, to believe that it was not good practice and, that it favoured leakage; there certainly was some in this case. The Murphy button did not seem to me very satisfactory either, and in another case, if the patient's condition allowed, I should prefer to rely entirely upon suturing.

ANATOMICAL SPECIMENS.

J. A. Henderson, M.D., presented two specimens, one of Horseshoe kidney, the other showing an unusual situation of the internal maxillary artery. He gave the following account:

My first specimen is a horseshoe kidney taken from subject number two of the McGill dissecting room series for this session, the subject being a man apparently thirty-five years old. It is a specimen in which the bond of union between the two sides 's of lage size and made of of renal substance.

In situation the kidney was lower than usual, the upper extremity on the left side being two inches, and the right side three inches too low. The lowest point is in the connecting lobe and is situated about one inch below the bifurcation of the aorta.

Shape.—Viewed anteriorly the kidney seems to consist of three lobes or masses. First, on the left is a mass very similar in size to the normal left kidney, but rather drawn out inferiorly, and with the hilum in front. Second, on the right is a mass rather smaller than the normal kidney, less regular in shape and also with the hilum in front. Third, there is an irregularly quadrilateral and partially lobulated mass, three inches long by one and three-quarter inches wide and three-quarters of an inch thick, uniting the lower poles of the lateral masses, and passing in front of the aorta and inferior vena cava. At first sight anteriorly there would appear to be three separate kidneys, but that is due to the hilum on each side concealing the connecting bridge of kidney substance. Viewed posteriorly it presents one mass with a very distinct crescentic or horseshoe shape.

Vessels.—In cases of horseshoe kidney the vascular supply is usually abundant, and this one is no exception to the rule. There are eight arteries present in this specimen, three pairs from the aorta, and two others arising lower down. The highest pair may be considered to be the normal renal arteries. They are about the usual size, long, and pass obliquely downward and outward to reach the masses on each side, subdividing before entering the renal substance. The second pair, about half the size of the first, arise together from the front of the aorta, half an inch below the inferior mesenteric, and curve outward and downward, to the central mass, where each enters the lower and inner part of the hilum. The third pair, smaller than the second, arise from the sides of the aorta, one inch above its bifurcation, under cover of the connecting lobe. Each passes outward to a notch on the lower border of each side situated at the junction of the connecting lobe with the lateral mass and at this notch enters the lowest part of the corresponding hilum. Of the two remaining arteries one arises from the right common iliac, and runs to the right portion of the central mass, while the other arises from the middle sacral artery and enters the lower border in the median line.

The veins are five in number. Two of large size from the right hilum, and one of large size from the left hilum enter the inferior vena cava, while two small veins from the lower border enter the left common iliac.

Hilum.—A separate hilum is present on each side, beginning in the lateral mass, running downward and inward and terminating in a notch at the lower border. It is placed in front of the kidney, and in each there are two ureteral pelves, one from the lateral, one from the central mass. These after diminishing in size unite to form a single ureter.

The second specimen I have to show this evening is more of special anatomical than of general practical interest, so the note is a brief one.

The internal maxillary artery, the larger of the two terminal branches of the external carotid, passes under cover of the neck of the lower jaw, and usually upon the surface of the external pterygoid muscle. Not infrequently, in about 41½ per cent. of cases, according to Dr. Shepherd, *Ref. Handbook of Med. Sciences*, it passes under cover of the external pterygoid muscle, between that muscle and the branches of the inferior maxillary division of the fifth nerve.

In this specimen the internal maxillary artery passes very deeply behind the third division of the third nerve and behind the foramen ovale, resting upon the chorda tympani nerve at its exit from the skull, and upon the base of the external pterygoid plate. The middle meningeal artery therefore has a very short course, about one-quarter of an inch, before reaching the foramen spinosum, and the auriculo-temporal nerve passes entirely in front of it.

On the other side of the head the internal maxillary artery was also under cover of the inferior maxillary division of the fifth nerve.

My excuse for showing this specimen is that, so far as I am aware, such a position of the artery has not hitherto been recorded.

F. J. Shepherd, M.D. Kidneys now are cut down upon and removed so often that when we get down upon such an one as this it is rather interesting, more especially as nearly all these kidneys have an abnormal supply of blood vessels, both in number and position, and this is a practical point which the operator should know. Another important point is that in all these anomalous kidneys you have an anterior position of the hilum. The second specimen is interesting from an anatomical standpoint only. As to the frequency of Horseshoe kidney I have seen about a dozen cases only in the dissecting room since 1875.

PULMONARY EMBOLISM.

A. E. Garrow, M.D., read a case report of pulmonary embolism following removal of stone from ureter.

F. G. Finley, M.D. The thrombi in the majority of these cases it seems to me has no connexion with operation; in this case it is more than probable that the patient would have died of embolism, apart from operation. I remember a patient who died of this condition after an operation and it was found that the embolus had come from the right side of the heart, which was dilated and fatty. The clot had formed in one of the auricles, and had been carried off and lodged in the lung.

F. R. England, M.D. A year ago I saw a case of thrombosis following operation for removal of the kidney. Fortunately the patient recovered, and no pulmonary embolism occurred; but there was a thrombosis with great œdema of the right leg coming on 10 or 12 days after nephrectomy; the man was in a very weak condition but was not septic.

HYDATID DISEASE.

C. K. P. Henry, M.D., read a paper upon hydatid disease. Dr. Henry also presented the patient who had been operated on for this condition, and had now returned with further cysts.

W. F. Hamilton, M.D. I should like to ask if there was any microscopical examination made of this fluid; as, in most of these cases, such an examination would place the diagnosis beyond doubt.

F. J. Shepherd, M.D. Of the three cases mentioned two were only discovered by the pathologist at the post-mortem. In the third, Dr. MacKenzie made a diagnosis of echinococcus cyst which was confirmed at operation. In this case I do not think any trouble has occurred since operation. Another case, I think, occurred at the hospital under either Dr. Ross or Dr. Osler, of an echinococcus cyst of the brain, which was found post-mortem.

J. A. Hutchison, M.D. I would like to express my appreciation of the work Dr. Henry has given to this report, and to ask if he is aware of the fact that in the Winnipeg Hospital a number of such cases may be seen from the Icelandic colony in the Northwest.

Ridley MacKenzie, M.D. Not long ago I saw the patient Dr. Shepherd spoke of; he was apparently in excellent health and there had been no return of the condition.

F. R. England, M.D. What Dr. Hutchison says is quite true, it is not such a rare condition in the Northwest among the Icelandic people; Dr. Chown, of Winnipeg, a few years ago reported a number of these cases before the Canadian Medical Association.

C. K. P. Henry, M.D. The patient reports that he has lived in Montreal ever since he came to Canada 16 years ago. As to the disease in the Northwest, Dr. Elder has written for information with regard to its incidence. In regard to the case of echinococcus cyst of the brain which Dr. Shepherd refers to, I have looked up the records but failed to find it. As to a diagnosis from the fluid obtained, I know that Dr. MacKenzie in his case also examined the fluid, and particularly looked for the hooklets, but there was nothing found characteristic of the condition to make diagnosis positive.

PERICARDITIS, WITH AN ANALYSIS OF 30 CASES.

W. F. Hamilton, M.D., read a paper upon Pericarditis, with an analysis of 30 cases.

F. G. Finley, M.D. I have been very much interested in Dr. Hamilton's results, and his experience is to some extent similar to my own. First of all, with regard to Ewart's dulness at the base of the left lung, I have failed to find it to any extent, without, as a general rule, something to account for it. A small quantity of fluid is very common indeed. I have at present a patient who has fluid on both sides, and considerable dulness, and on several occasions I have found the dulness due to fluid and not due to the explanation Dr. Ewart gives for it. I have also occasionally found much difficulty in distinguishing between pericardial effusion and cardiac dilatation. In a case I saw with Dr. MacKenzie of this nature we were both undecided as to whether we were dealing with a dilated heart or pericardial effusion. Under these circumstances it is safer to have a surgeon make an incision rather than run the risk of inserting the needle blindly into the heart. In the case I referred to Dr. Armstrong made an incision and found plastic pericarditis but absolutely no fluid, and in future cases I think I should be inclined to follow the same practice, when there is any reasonable doubt.

Ridley MacKenzie, M.D. I can only speak of the treatment, and would say that I would never suggest, or even coincide, with aspirating the pericardium in such cases. I have listened to descriptions of the ease with which it can be done, but I have doubted it very much. A much safer way is resection of the rib, which acts as well, and with very much less danger.

HAMILTON MEDICAL SOCIETY.

The regular monthly meeting of this Society was held January 3rd, 1906, in the Hotel Royal, the President, Dr. Ingersoll Olmsted, occupying the chair.

The programme was as follows:—

I. Round Ulcer of Duodenum, by Dr. J. Albert Dickson. Notes of three cases were read. In the discussion which followed, attention was called to these points:—That of the three cases cited, one was syphilitic, one tubercular, and the third alcoholic, with cirhotic liver and kidneys, and that accurate diagnosis of the condition is difficult or impossible before the occurrence of perforation or hæmorrhage.

II. Compound Fracture of Skull, by Dr. L. W. Cockburn. A case was presented with history, where the patient, as a result of an accident, had a flap of bone and scalp removed from his head, and turned down over the forehead,— in very much the same way as a surgeon would do, prior to an operation on the dura mater or brain. Both bone and scalp were replaced, and the wound drained. Patient made a perfect recovery.

Dr. Cockburn also showed a patient who illustrated in a striking manner the value of conservatism in surgery. The man had suffered a crushing of the right hand so that the member was practically disorganized. Instead of amputation at the wrist, the usual procedure in such cases, the hand was cleaned, as thoroughly as possible, and dressed. As a final result the patient showed, instead of a stump, a comparatively useful though deformed hand.

III. Microscopical Specimens, by Dr. J. Albert Bauer. Stained sections were shown of a number of interesting pathological specimens.

IV. Gross Pathological Specimens, with reports of the cases were presented by Drs. Olmsted and Mullin.

Mr. Croft, well known to many Canadians as one of the surgeons on the staff of St. Thomas' Hospital, London, England, died, November 21st, aged 72.

Dr. Jukes, formerly of St. Catharines, for some time Surgeon, North-West Mounted Police, and lately a resident of Wellington, B.C., died in Vancouver December 6th. He became a licentiate of the Medical Board in 1849, and received the degree of M.B. from Trinity University in 1865.

Messrs. Baillière, Tindall & Cox, of 8 Henrietta Street, Covent Garden, London, announce that, after January 1st, 1906, Messrs. J. A. Carveth & Co., of Toronto, will have the entire agency for their books in Canada. This will make it possible for medical men to get any of those books which they may require within a few days through any bookseller in Canada.

THE DISCOVERER OF THE PHAGOCYTE.

The mention of the fact that the body in sickness is a battlefield where invaders and defenders "fight to a finish," recalls the man who discovered our powerful ally, the phagocyte, and the mechanism of its protective action. It may not be amiss to give some details of the life of Elie Metchnikoff, to whom just two and a half wholly unilluminating lines are devoted in *Who's Who*. The authenticity of the account is guaranteed by the fact that it comes from the great scientist himself. He was born in 1845 at Livanopka, in the Kharkoff Government, amid the steppes of Southern Russia. His father was an officer of the Imperial Guard, who bred horses for the Russian Cavalry at Livanovka. His mother was a Polish Jewess. Metchnikoff describes himself as a mongrel, having in him more Hebrew blood than Slav. The bent of his mind towards natural science was revealed to him at the age of eight, when a medical student with a taste for botany came to prepare his elder brother for a public school. At the age of eleven Metchnikoff entered the Kharkoff *lycée*, where he remained seven years. He then entered the University of the same town, and in due course obtained the degree of Licentiate, corresponding to our Bachelor of Arts. Afterwards he studied at Giessen under Leuckhart, celebrated as an authority on intestinal worms; at Göttingen, under the famous anatomist Henle, and at Munich under Siebold. It is worthy of note that Metchnikoff never took a degree in medicine; professional pedants might therefore justly taunt him, as they taunted Pasteur, with the fact that he is an "unqualified man." Almost from the first he gave himself up to zoology and anatomy. His researches on the lower animals led him to Italy, where he worked at the Naples Marine Station and elsewhere. For twelve years he was professor at Odessa; he resigned his chair in 1882 on account of the intolerable situation created by the murder of Alexander the Second, the perpetrator of which had been a student in that University. Metchnikoff, who has always held aloof from politics, returned to Italy, settling at Messina. There he studied comparative embryology and there too he discovered the phagocyte. In 1886 he returned to Russia and was appointed director of a bacteriological station at Odessa. As the country round about swarmed with mad dogs and wolves, he soon found that the number of patients requiring treatment left him no time to pursue his researches. He therefore gave up his post, and, turning his back finally on Russia, wandered about Europe for a time, finally settling in Paris. The Pasteur Institute was then in course of erection, and Metchnikoff offered his services to Pas-

teur, who at once placed a laboratory at his disposal. There he has remained for 17 years. He has had brilliant offers from Russia and America, but has steadfastly refused to leave Paris. He says: "I like the Institute and have numerous pupils. What more can I wish for?" His life, simple and strenuous, has been one of single-minded devotion to the search for truth.—*The Practitioner,* December, 1905.

THE BEHRING INCIDENT.

The question of congress organization recalls the Behring incident, which was so much discussed by the newspapers as well as by the medical profession. What purports to be the "true story" was published not long ago in the *Gaulois.* In that account the responsibility for the sensation is placed on the shoulders of a journalist who met Professor Behring at dinner during the Congress. The Professor, it is said, does not speak much French, and his statement that he had found a cure for *bovine* tuberculosis was misconstrued into an assertion that he had discovered a cure for consumption. We are asked to believe that in this way an enterprising Paris newspaper was misled into publishing a statement, which was not merely premature, but positively false. This explanation may possibly be true, but we regret to say that we cannot believe it to be the whole truth. It is likely enough, however, that Professor Behring's hand was forced. It would seem that he was unwittingly made to play the part of a muzzle to Dr. Marmoreck, to whom, for some reason, the authorities of the Congress were unwilling to grant a hearing. It is certain that the manner in which Phofessor Behring was put forward was, to say the least of it, unusual. The General Secretary announced in a loud voice at one of the public sittings, where no discussion was possible, that "By order of the President, Professor Behring was to be allowed to make a communication, etc." It is pretty clear that a sensation was deliberately engineered by some one. The profession has grown tired of the frequent announcement of discoveries by well-known scientists; it has been taken in so often that it has also become suspicious. It is a pity that both advertising discoverers and sensational journalists cannot be made amenable to punishment for the publication of false news. The amount of suffering which such exaggerating statements cause is past all computation, and there should be some legal provision to protect the public from what is a particularly cruel form of deception.—*The Practitioner,* December, 1905.

The following percentages of alcohol in the "patent medicines" named are given by the Massachusetts State Board Analyst in the published document No. 34:

Lydia Pinkham's Vegetable Compound, 20.6; Paine's Celery Compound, 21; Dr. Williams's Vegetable Jaundice Bitters, 18.5; Whiskol, "a non-intoxicating stimulant," 28.2; Colden's Liquid Beef Tonic, "recommended for treatment of alcohol habit," 26.5; Ayer's Sarsaparilla, 26.2; Thayer's Compound Extract of Sarsaparilla, 21.5; Hood's Sarsaparilla, 18.8; Allen's Sarsaparilla, 13.5; Dana's Sarsaparilla, 13.5; Brown's Sarsaparilla, 13.5; Peruna, 28.5; Vinol, Wine of Cod Liver Oil, 18.8; Dr. Peters's Kuriko, 14; Carter's Physical Extract, 22; Hocker's Wigwam Tonic, 20.7; Hoofland's German Tonic, 29.3; Howe's Arabian Tonic, "not a rum drink," 13.2; Jackson's Golden Seal Tonic, 19.6; Mensman's Peptonized Beef Tonic, 16.5; Parker's Tonic, "purely vegetable," 41.6; Schneck's Seaweed Tonic, "entirely harmless," 19.5; Baxter's Mandrake Bitters, 16.5; Boker's Stomach Bitters, 42.6; Burdock Blood Bitters, 25.2; Greene's Nervura, 17.2; Hartshorn's Bitters, 22.2; Hoofland's German Bitters, "entirely vegetable," 25.6; Hop Bitters, 12; Hostetter's Stomach Bitters, 44.3; Kaufman's Sulphur Bitters, "contains no alcohol" (as a matter of fact it contains 20.5 per cent. of alcohol, and no sulphur), 20.5; Puritana, 22; Richardson's Concentrated Sherry Wine Bitters, 47.5; Warner's Safe Tonic Bitters, 35.7; Warren's Bilious Bitters, 21.5; Faith Whitcomb's Nerve Bitters, 20.3.

The present number of the JOURNAL has been delayed on account of difficulties which occurred with the mechanical staff of the printing house. The trouble has been arranged, and the indulgence of readers is asked for the delay.

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The Treatment of Nasal Catarrh. By John A. Hale, M.D., Alto Pass, Ill.—For years I have used various remedies and met with varying success, until tiring of one remedy or another I relied solely on Potassium Permanganate in weak solutions as a nasal douche, but a review of some points in this paper will show why I always sought for something else. Glyco-Thymoline has usurped the place of the permanganate solution in my armamentarium, and after sufficient trial established faith, implicit faith, in its specific therapeusis for this condition. A knowledge of its essential constituents and their therapeutic action only tends to strengthen a belief in its specificity. Caution is necessary in the selection and use of remedies, but a fair trial has proven no untoward circumstances emanating from the use of this remedy. Meanwhile the therapeutic results are gratifying and the good effect of Glyco-Thymoline can be easily verified by a trial, when conclusions will be the result of practical truths only.

Pneumonia.—"The pneumonia season is rapidly approaching. Soon the various journals will be full of the statistics of past years in regard to the prevalence and fatality of this disease. The pathology and etiology will be thoroughly gone over, but judging by the past, most writers will have very little that is encouraging to say as regards treatment.

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account of the cold air blowing across his face. It is now considered that this is impossible. Also, whatever drugs may be used, keep the body warm with suitable clothing, and use externally some preparation which will cause a comparative lessening of blood-pressure in the lungs. Cold applications, besides lowering the vitality of the patient, cause a depletion of the superficial vessels and consequently increase the hyperemia in the lungs themselves. Our attention then would be drawn, per contra, to hot applications. To the most of these there are very great practical objections, such as their inconvenience, their tendency to grow cold very rapidly, and the fact that they must frequently be renewed, thereby disturbing the patient's rest to his manifest detriment.

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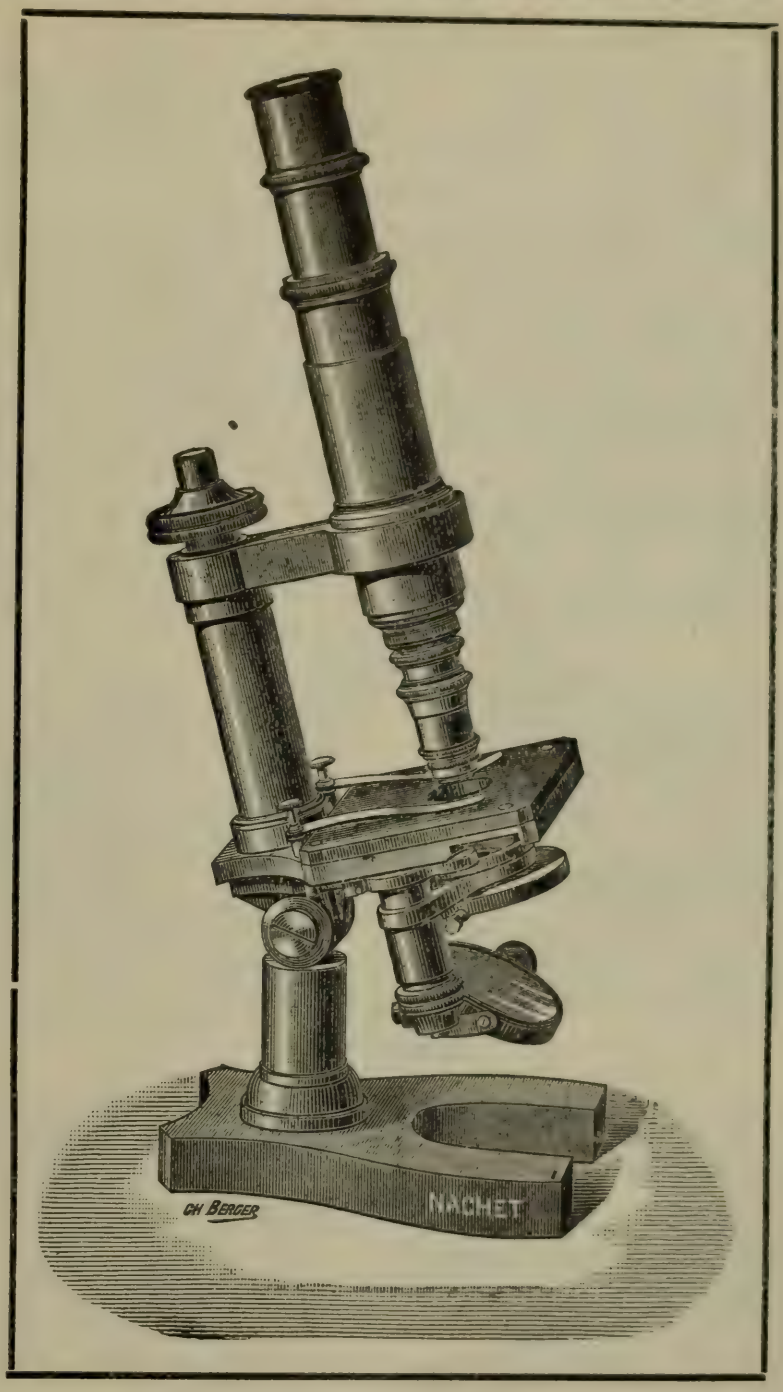

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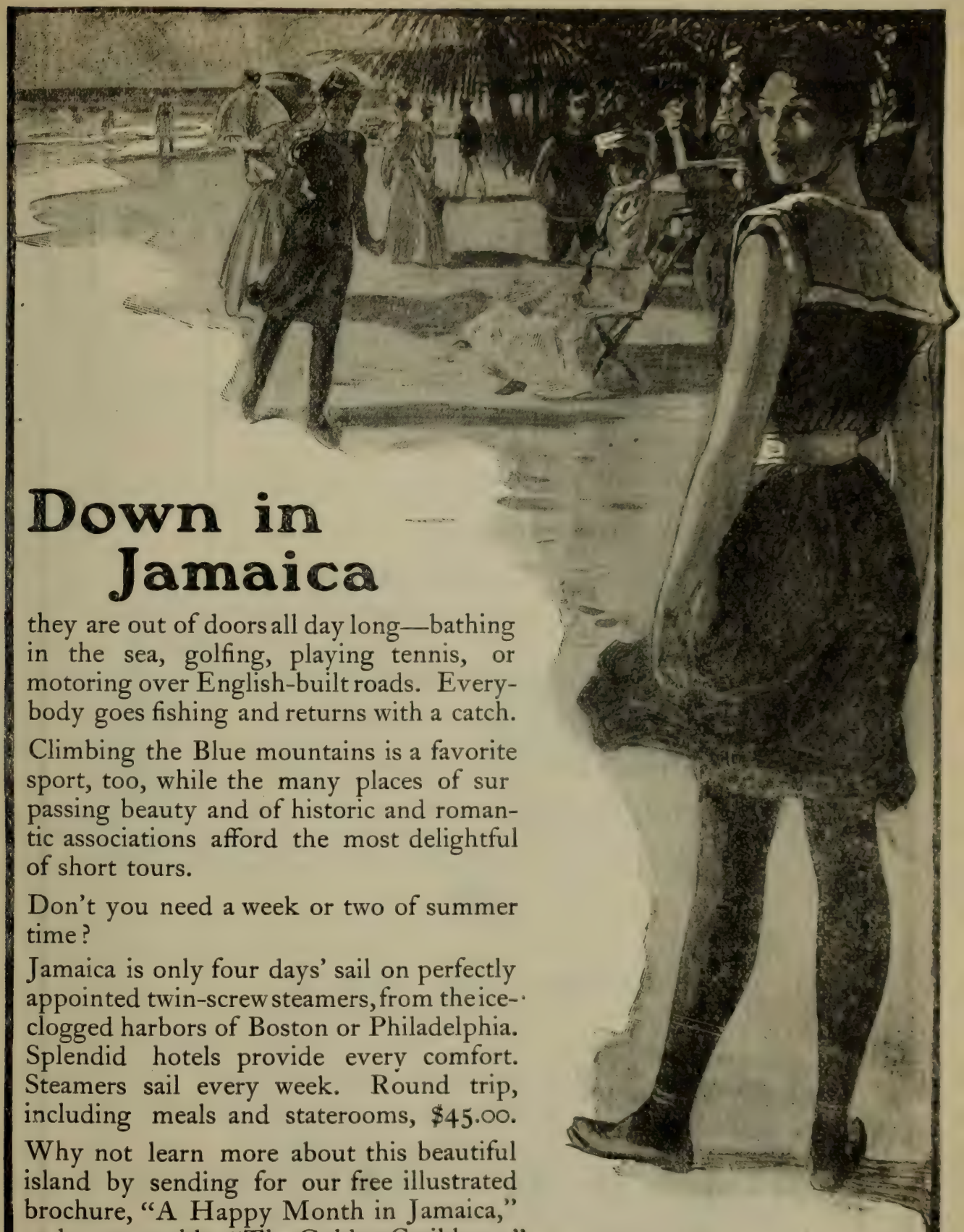

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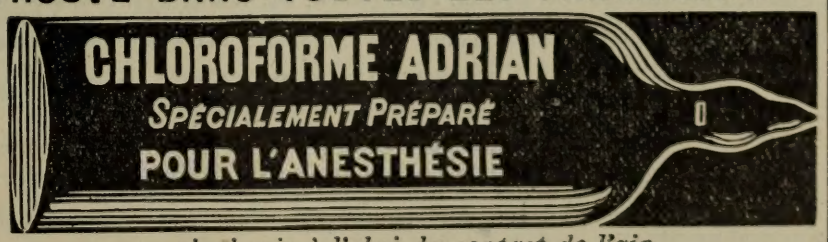

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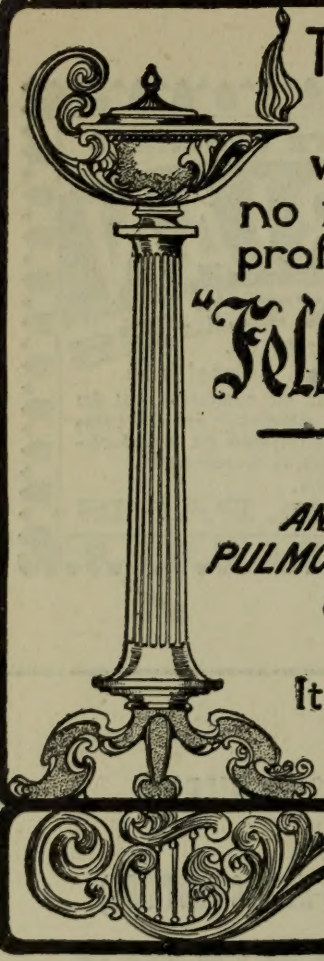

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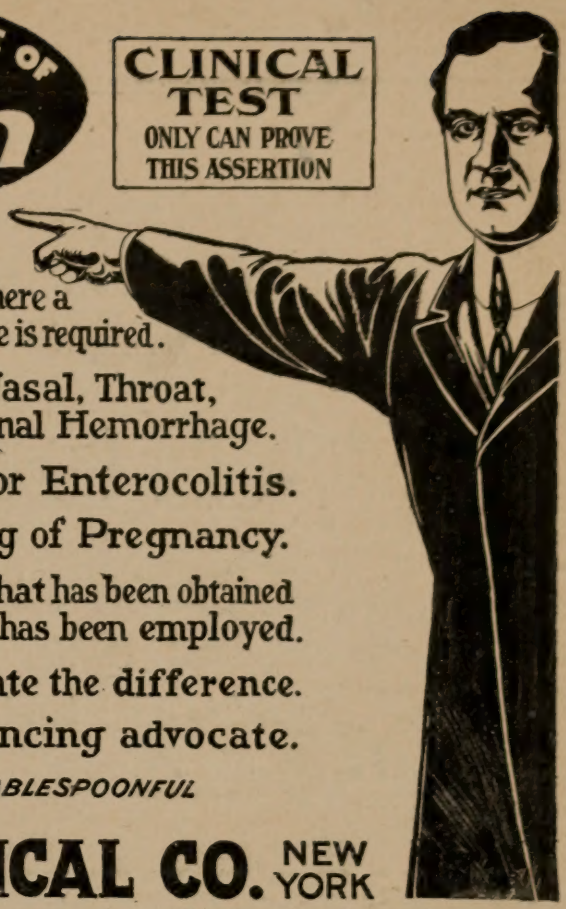

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